

# Amateur Photographer



## Fujifilm GFX 50S

Why a top press shooter doesn't want to give this medium-format bruiser back

Passionate about photography since 1884

# Sharpen your eye

Don't miss **Michael Freeman's** guide to stunning composition

## Nik of time

Get the **free** Nik collection while you can! Full guide to **Silver Efex Pro** and more

TESTED

## Canon updates a classic lens

Full review of reinvigorated 24-105mm f/4L II glass



**Win a Sony RX10 III**

Take part in our wildlife/nature shootout and it could be yours

**Best flash diffusers from £35** Get lovely lighting effects for a lot less

# Hello Slow

Relax, recharge, refresh, revitalise, reacquaint  
on self-guided walking, cycling and touring holidays in Europe and beyond.  
Hello you.

*Hallstatt, Austria. Photo by Roger Hart*  
Inntravel Slow Moments photographic competition  
Enter yours at [inntravel.co.uk/slow](http://inntravel.co.uk/slow)



**Inntravel.co.uk**  
The *Slow Holiday* people



COVER PICTURE © TOM MACHE

## In this issue

### 12 Sharpen your eye

It's important to take some time to get your composition sorted. Expert pro Michael Freeman shares his tips

### 20 Photo Insight

Robert Canis explains how he got this beautiful shot of a white helleborine

### 22 Free for all

The Google Nik Collection is a superb plug-in suite and best of all, it's free

### 28 The basics of colour

Learn about the colour fundamentals for best results when editing video

### 30 Reader Portfolio

Fantastic landscapes from reader Darren Rose

### 32 Living it large

Pro shooter Edmond Terakopian takes the Fujifilm GFX 50S to work

### 38 Flashgun softboxes

We take a look at four modifying flash options currently on the market

### 40 Competition

Your chance to win a Sony Cyber-shot DSC-RX10 III

### 41 Canon EF 24-105mm f/4L IS II USM

Michael Topham compares this Canon 24-105mm Mark II lens with the original model

### 44 Competition

Win a Rotolight AEOS kit bundle worth £1,357

## Regulars

### 3 7 days

### 9 Inbox

### 45 Accessories

### 47 Tech Support

### 66 Final Analysis

# 7days

## A week in photography



Many technical skills can be taught in photography, but helping people develop an 'eye' for composition is much harder. Pros who run courses tell us it's one of their main challenges: while they can advise on helpful techniques and approaches, effective composition is not an exact science. Mindful of this, we asked Michael Freeman, one of the world's most prolific photography

authors and a highly skilled shooter in his own right, to share some of his composition secrets. As you'll see on page 12, it's as much about thinking differently as it is about following the 'rules'. Meanwhile top press photographer Edmond Terakopian tries out the Fujifilm GFX 50S on page 32, and don't miss our unique competition to win a Sony GX10 Mark III on page 40. Another packed issue!

**Nigel Atherton, Editor**

JOIN US  
ONLINE

Amateur  
photographer

amateurphotographer.co.uk



Facebook.com/Amateur  
photographer.magazine



flickr.com/groups/  
amateurphotographer



@AP\_Magazine



amateurphotographer  
magazine

## ONLINE PICTURE OF THE WEEK

© TONY SELLIN

IMAGES MAY BE USED FOR PROMOTION PURPOSES ONLINE AND ON SOCIAL MEDIA

### King's Cross Station

by Tony Sellen

Nikon D810, 25mm, 1/30sec at f/7.1, ISO 800

This image, taken by London-based AP reader Tony Sellen, was uploaded to our Twitter page using the hashtag #appicoftheweek.

Tony is a photographer who has entered various competitions throughout the years, including our own APOY, and consistently places highly with his distinct black & white

images. Most recently he was a runner-up in the Wex Photographer of the Year competition.

'This photo was taken in King's Cross Station,' he says. 'The high-contrast walls make this a favourite spot for photographers. I first took a photo here back in 2015 and I've been back many times since.'

**PermaJet**  
PROFESSIONAL INKJET MEDIA

**Win!** Each week we choose our favourite picture on Facebook, Instagram, Flickr, Twitter or the reader gallery using #appicoftheweek. PermaJet proudly supports the online picture of the week winner, who will receive a top-quality print of their image on the finest PermaJet paper\*. It is important to bring images to life outside the digital sphere, so we encourage everyone to get printing today! Visit [www.permajet.com](http://www.permajet.com) to learn more.

\*PLEASE ALLOW UP TO 28 DAYS FOR DELIVERY

### Send us your pictures

If you'd like to see your work published in *Amateur Photographer*, here's how to send us your images:

**Email** Email a selection of low-res images (up to 5MB of attachments in total) to [appicoftheweek@timeinc.com](mailto:appicoftheweek@timeinc.com).

**CD/DVD** Send us a disc of high-resolution JPEG, TIFF or PSD images (at least 2480 pixels along its longest length), with a contact sheet, to the address on page 49.

**Via our online communities** Post your pictures into our Flickr group, Facebook page, Twitter feed, or the gallery on our website. See details above.

**Transparencies/prints** Well-packaged prints or slides (without glass mounts) should be sent by Special Delivery, with a return SAE, to the address on page 49.

## NEWS ROUND-UP

The week in brief, edited by Liam Clifford

### Jessops #ShareYourSummer

Jessops has brought back #ShareYourSummer, running until 2 August. Budding photographers should share their images via social media tagging @jessops and using the hashtag #ShareYourSummer2017 to be in with a chance of having their images showcased across 56 UK towns and cities, with the overall winner receiving £3,000.



© STIJN VAN HOUT

### Historical photography online collection

More than 50 organisations across Europe have shared their historical photography collections online to help form one big database. The newly formed archive, EuropeanaPhotography, led by PHOTOCONSORTIUM, contains over two million images.



© 'AN ARTIST IN HIS LIFE', 1860/1900, PUBLIC DOMAIN

### Prynt Pocket mobile printer

Prynt has launched its latest mobile printer, Prynt Pocket. Users can print directly from their iPhone by inserting it into the device, taking a photo and using the Prynt app to make edits. The printer has a removable paper cartridge and it takes about 30 seconds to print a photo. Available now for \$149.99.



### Halide iOS camera app

Ex-Apple designer Sebastiaan de With and ex-Twitter engineer Ben Sandofsky have teamed up to launch a new iOS camera app, Halide, designed for more advanced users. The developers say it offers high-end tools for more control. Designed around a gesture-based interface, it costs £4.99 from the App Store.



### NanGuang LED studio light

Kenro has launched a new NanGuang ultra-slim LED studio light, retractable wall arm and background support kit, all ideal space-saving solutions. The new Combo 40C flat panel light will retail at £179.94. The wall arm holds light heads up to 5kg and is £99.96, whereas the compact background support kit is £77.94. Visit [www.kenro.co.uk](http://www.kenro.co.uk).



© CARLA REGLER

### Round the Island Boat Race

Join Carla Regler for a day photographing the largest race of its kind with around 16,000 professional and amateur sailors. You will have the best seats in the area with your own rib and skipper, so you can photograph the boats as they come past the most photogenic view of the Isle of Wight –The Needles. 1 July, [www.lightandland.co.uk/photography-tours](http://www.lightandland.co.uk/photography-tours)



### GET UP & GO

#### ISLE OF WIGHT



© CARLA REGLER  
© BRADFORD INDUSTRIAL MUSEUM

#### WEST YORKSHIRE

**Industrial Society**  
This exhibition looks at changes during the Industrial Revolution, specifically how the British working classes went from objects in photos, to heroic representations of industry and finally to photographers themselves.

Until 5 November  
[www.bradfordmuseums.org/venues/bradford-industrial-museum](http://www.bradfordmuseums.org/venues/bradford-industrial-museum)

# BIG picture

Lensculture looks back at its favourite competition images in a new book

For the past ten years the website LensCulture has been a pretty reliable source when it comes to measuring the temperature of contemporary photography. Its pages are awash with fascinating, informative and, at times, provocative images that span the genres of activism, street, portrait and photojournalism. Now LensCulture is releasing a book looking back at some of its favourite images discovered through four international photography competitions sponsored by LensCulture in the past year. This image by Alan O'Riordan, in which we see a young woman sitting in a sea of nylon, repairing fishing nets in the busy port of Hòn R, Nha Trang, Vietnam, was a finalist in the 2017 LensCulture Exposure Awards.

The *Best of LensCulture Vol 1* is published by Schilt, priced £22. Visit [www.lensculture.com](http://www.lensculture.com).

## Words & numbers

*Your first 10,000 photographs are your worst*

Henri Cartier-Bresson

1908-2004

60,692  
number of photos in largest online photo album of shadows, achieved by Huawei Honor6 and Sohu IT from China



The most interesting things to see, to do and to shoot this week. By Oliver Atwell

### EDINBURGH



### Alastair Cook

This exhibition at McArthur's Store in Dunbar features a series of wet-plate collodion portraits created by Alastair Cook during his time as Artist in Residence. Alastair Cook is an award-winning photographer who works with lens-based media.

Until 30 June

[www.theimagecollective.co.uk](http://www.theimagecollective.co.uk)

### NOTTINGHAM



### Historical Architecture

Top architectural photographer Martine Hamilton Knight guides you through the beautiful Tudor home of the Brackenbury family in Holme Pierrepont Hall, Nottingham. Composition, lighting and exposure will be explored, as well as wideangle versus telephoto lens choice.

22 June, [www.rps.org/events](http://www.rps.org/events)

### LONDON



### War of Terror

Through photography, videos, graphic visualisations and documents, artist-photographer Edmund Clark reveals hidden stories of controversial methods taken by states to protect their citizens against terrorism. This exhibition focuses on the experiences of UK residents and raises vital issues.

Until 28 August, [www.iwm.org.uk](http://www.iwm.org.uk)



The 10-20mm zoom (left) and fisheye lenses (right) are priced at £329.99 and £1,299.99 respectively

# Nikon reveals a trio of fresh lenses

**Nikon** is set to expand its Nikkor lens line-up further this month, unveiling a trio of new wideangle models: the Nikon AF-P DX Nikkor 10-20mm f/4.5-5.6G VR, the AF-S Nikkor 28mm f/1.4E ED and the AF-S Fisheye Nikkor 8-15mm f/3.5-4.5E ED.

First up is the 10-20mm DX VR, which has been launched as an affordable ultra-wideangle zoom lens for the beginner and enthusiast markets, keeping versatility at the top of the features list by ensuring the optic's construction is both light and compact.

It contains three aspherical lens elements to ensure excellent image quality while minimising distortions that could be caused when shooting at its widest focal lengths. It also features the equivalent of 3.5 stops of Vibration Reduction (VR) performance to help users capture sharp images when handholding the lens.

The Nikkor 10-20mm f/4.5-5.6 will be available from 29 June, priced £329.99.

The second lens of the trio, the 28mm is a premium f/1.4

FX ultra-wideangle prime lens aimed at professionals and high-level enthusiasts. It features 14 elements arranged in 11 groups, with three aspherical elements built to reduce coma, aberration and distortion, and two ED glass elements to

minimise chromatic aberration. The lens also uses Nikon's Nano Crystal Coat to reduce instances of ghosting and flare.

The body is built of lightweight magnesium alloy, and is weather-sealed to withstand the elements when being used outside. The glass has a fluorine coating to resist dirt, smudges and fingerprints.

The 28mm f/1.4 is also due to be available from 29 June, at a price of £2,079.99.

Last up, the 8-15mm f/3.5-4.5E ED represents the first fisheye zoom lens from Nikon, combining the distinctive look of a creative circular fisheye at 8mm with full frame coverage at 15mm. Three ED and two aspherical lens elements work to minimise chromatic aberrations and coma, even at the widest apertures – as well as allowing for a more compact lens size. As with the 28mm, the front lens element is coated with a fluorine coat and the same Nano Crystal Coat coating for flare reduction.

It will be available ahead of its siblings on 15 June, priced £1,299.99.



The AF-S Nikkor 28mm f/1.4E ED is aimed at the enthusiast market



## Google stops Nik Collection development

**GOOGLE** has announced that it is ceasing development of its popular Nik Collection of photo-editing software.

'The Nik Collection is free and compatible with Mac OS X 10.7 through 10.10, Windows Vista, 7, 8 and Adobe Photoshop through Creative Cloud 2015. We have no plans to update the Collection or add new features over time,' the company wrote on the Nik website.

Google acquired the collection in 2012, at the same time as it bought Snapseed, and last year saw it do away with the \$150 price. The software will remain available on the site, [www.google.com/nikcollection](http://www.google.com/nikcollection). See page 22 for our expert guide to using the collection.



**Subscribe to Amateur Photographer**  
**SAVE 35%**  
Visit [amateurphotographer.subs.co.uk/11YU](http://amateurphotographer.subs.co.uk/11YU) (or see p46)  
\* when you pay by UK Direct Debit



The Coolpix W300 is waterproof to a depth of 30m, and will work in -10°C temperatures

## Dive deep with the Coolpix W300

**HOT ON** the heels of the Olympus Tough TG-5 and Ricoh WG-50, Nikon has also announced the arrival of a new all-weather compact camera in the form of the Coolpix W300.

Armed with a 16MP CMOS sensor and built-in wideangle zoom lens, the W300 will be waterproof down to 30m without any casing or housing, safe to drop from 2.4m, weather-proofed and safe to operate to -10°C. It includes a 5-axis Hybrid Vibration Reduction system for steadier shots in challenging conditions. It

also shoots 4K and Full HD video with a new auto-exposure system that helps capture smooth video footage as the light changes, which should prove particularly handy when shooting underwater. Since the W300 is aimed at adventure, the exterior boasts a deep grip, a large monitor and an easy-control scheme for underwater use or when wearing gloves.

The f/2.8 lens features an up to 5x optical zoom, which is doubled when it switches to digital zoom, as well as a macro mode for shooting close-ups.

Other features include SnapBridge connectivity, which lets users sync their shots to a smart device as they shoot, or use the smart device to shoot remotely; the 'Tool' function, which displays GPS location, steps taken, depth and other useful titbits of information; and a tripod mount that doubles as a mount for accessories such as underwater flashguns.

The Nikon Coolpix W300 will be priced at £389.99 and is available in camo, orange, black and yellow. The official release date is to be confirmed.

## Laowa 'Magic' converter for GFX

**The Laowa Magic Format Converter (MFC)** is the first Fujifilm GFX adapter for Canon and Nikon full-frame lenses. The 1.4x converter has a focal length multiplier of 1.4x and reduces the maximum aperture by one stop.

The Laowa MFC comes in Canon EF to Fujifilm G and Nikon AI to Fujifilm G options. The price and launch date are to be confirmed.



The Laowa Magic Format converter for Fuji GFX

For the latest news visit [www.amateurphotographer.co.uk](http://www.amateurphotographer.co.uk)

## New Books

The latest and best books from the world of photography. By Oliver Atwell



© LAUREN GREENFIELD

### Generation Wealth

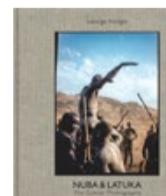
by Lauren Greenfield, Phaidon, £59.95, 504 pages, hardback, ISBN 978-0-71487-212-4



IN THIS voluminous tome, photography and documentary filmmaker Lauren Greenfield documents one of the hot-button topics of our time: wealth. Anyone who saw Greenfield's latest documentary *The Queen of Versailles* on the BBC recently will have a good idea of what to expect from this collection. The subjects captured are all defined by their pursuit of money, glamour, prestige and fame. Greenfield casts her eye over the multiple platforms that facilitate these goals. We find ourselves in the company of individuals immersed in the worlds of beauty pageants, consumerism, materialism, business and politics. Crucially, Greenfield's approach is unjudgemental. She is there to document and question, and ultimately allow the viewer to reach his or her own conclusions. It's difficult not to feel as though you are at times witnessing another version of the world, one that is almost overwhelming in its hyperreality. This could be one of the most important photography books of the year. ★★★★★

### Nuba & Latuka: The Colour Photographs

by George Rodger, Prestel, £35, 112 pages, hardback, ISBN 978-3-79138-322-4



PHOTOGRAPHER George Rodger was one of the founders of the Magnum Agency, and here we find a series of extraordinary images taken during his travels in Sudan from 1948-49. While there, he learned of the Nuba and Latuka tribes. After some negotiation, the Sudanese government granted permission for him to photograph these incredible people. The images he delivered to *National Geographic Magazine* were black & white, but in this book we get to see the recently uncovered colour images. The colours pop and bleed from the page, giving new life to these vivid Sudanese tribes. Essays by photographers Chris Steele-Perkins and Aaron Schuman provide context and analysis, and hammer home just how fascinating this document is. ★★★★★



# Viewpoint

## David Pratt

David Pratt offers a call to arms for all those film users who feel as if they've been left behind by the digital age

I know how those war heroes must feel – the ones who come back to the land they defended, only to be ignored. When the mighty 'digital' world came upon us, I felt myself a casualty. I believed the stories that film had vanished, and I began to believe the digital replacement hype. I was almost forgetting my arguments that a 35mm frame of Kodachrome (a colour positive archival product) would resolve a few hundred lines per millimetre. Specialist films resolved 1,000, whereas digital is a few thousand pixels to 36mm. That's 55 pixels per millimetre. So digital 12MB sounds pretty appealing.

My Fujifilm X-E1 software lets me dial in grain and has settings to copy the look of film – but why? We are only up to 40MB (60x60mm) sensors in cameras that can cost thousands of pounds.

A train achieved 126 miles per hour in 1920. Then, after updating locomotives in the 1950s, steam was abandoned in favour of diesel (fossil) fuel. We are only just reaching 120 kilometres an hour. And we're still struggling with electrification.

Do you see where I am going? Why not experience the best of both worlds in photography? It just needs a little retro thinking: shoot film and scan the result.

The film camera reached its peak with autofocus and TTL metering. Fujifilm,

Mamiya and Hasselblad all produced great cameras that did this – the Mamiya 645AF (32 frames on 220) and the Hasselblad H-1, developed by Fuji. If you need the 'security' of digital direct, the 645AFD will take digital and film backs. This was the future 20 years ago.

A Mamiya 645AF costs £600–£700, while the Hasselblad (with built-in flash) costs a little more.

Kodak and Fuji 120 rollfilm is available from UK suppliers, and can still be processed at professional labs. The labs will scan the results, and it costs about £5 for a process and scan. And here's the real clincher – scans come back as 12MB files, or 40MB-plus files. Each exposed colour negative costs less than £1. I actually scan my own with an Epson Perfection V700 Photo (£400).

I won't scare you with the cost of a 40MB digital back, because remortgaging would have to be involved, so I'll leave you to ponder this. Why are we going back to vinyl records, which actually have a visible waveform on them – in other words, real sounds? Do you really prefer an 01001100101 recording and a piece of 'algorithm' converting it to a 'picture' that humans interpret as real?

**David Pratt** is a lifetime professional photographer and educator who has self-published a number of books

A scan from a medium-format negative will come back as a 40MB-plus file



## In next week's issue

On sale Tuesday 20 June



# Look sharp

Get to grips with accurate autofocus using top tips from the pros



## On the right track

We get unique access to shoot the Flying Scotsman locomotive

## Canon PowerShot G9 X Mark II

New and improved! Canon's slim, stylish compact gets an update

## Classics revisited

A Gloria Swanson portrait from the 20s

# Inbox

Email amateurphotographer@timeinc.com and include your full postal address.  
**Write to** Inbox, Amateur Photographer, Time Inc. (UK), Pinehurst 2, Pinehurst Road, Farnborough Business Park, Farnborough, Hants GU14 7BF

## LETTER OF THE WEEK

### Leica for life?

In Edmond Terakopian's article on the new Leica M10 (AP, 3 June), it was interesting to see a parallel drawn with the original M3.

The M10 is supposedly designed with a 'retro' feel to it and has a lot in common with the M3. However, I see some notable differences:

First, the M3 does not rely on electricity, while the M10, like all digital cameras, is totally dependent on it. And, apart from TTL metering, the same is true of all Leica's film Ms.

Second, the proud boast of the film Ms was that they were a 'camera for life'. I'm not sure whether you can say that about any of the digital Ms. Another expectation with the film Ms was that they would hold much of their value. Just compare the current re-sale price of an M3 (or any film M) in reasonable condition with its original price. It's amazing when you consider its age and the generally poor value retention of other film cameras. When I compared the likely value of my seven-year-old M9 with its original price (just short of £5k), I was appalled – it has fallen by 60–70%. What are the chances of an M10 retaining a value anywhere near its price tag (£5,850)? I wonder whether our obsession with the technical evolution of digital photography has blinded us to the in-built obsolescence and poor residual value of its products.

**Neil Pascoe, Lancashire**

**Some interesting points, Neil. Personally, I think the need to keep your camera battery charged and maybe carry a spare is a tiny price to pay for the multitude of advantages brought by digital imaging compared to film. Likewise, the idea that film Ms were 'cameras for life' has proven to be false, given the overwhelming shift to digital technology**  
**– Andy Westlake, technical editor**

### Win! SAMSUNG

The EVO Plus microSD Card has added memory capacity and multi-device functionality. This UHS-I Speed Class 1 (U1) and Class 10 compatible card is perfect for capturing photos and video recording. [www.samsung.com](http://www.samsung.com)



### Digital victory

'Yes, yes' to film instead of digital. Now, I'm just off to bin my microwave and look out my multiplication tables.

The 'resurgence' of film is nice; it's great to enjoy a bit of nostalgia. But the war is over, and film lost;

digital won. Film is no more than a niche enthusiasm that, like vinyl, will fade to insignificance. For me, one reason is enough. On my first safari I took 11 rolls of 36 exposure film. By the time the duffers went in the bin there weren't many left. Now?

I get lots of good photographs because I can see the problems and sort them out. Sloppy over-exposure? Just take another one and do it right – it's bliss!

Now, can we start worrying about the demise of the camera; how many people only take photographs on phone or tablet? Does the camera have a future?

**Andrew Shand, Irvine**

**Thanks for the feedback – as long as there is enough interest in film, AP will keep doing regular articles, but don't worry, we aren't going back in time and becoming Amateur Film Photographer – Geoff Harris, deputy editor**

### Summit meeting

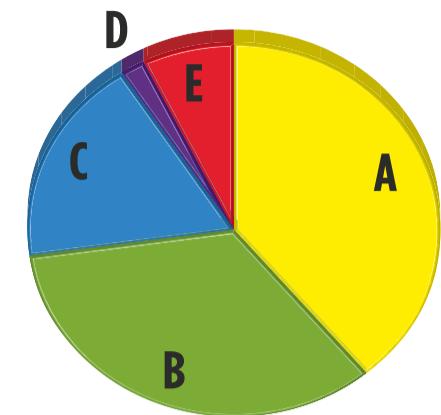
Regarding your feature *The Soldier's Kodak* (AP, 3 June). The Vest Pocket Kodak's other claim to fame is that it was carried by Andrew Irvine when he and George Mallory were on Everest in 1924. Although Mallory's body has been discovered, Irvine's remains and his camera have not yet been found. It may be that his VPK still has recoverable evidence as to whether the pair did indeed reach the summit.

Incidentally, Edmund Hillary also had a fairly primitive camera by today's standards when he took his famous picture on the summit in 1953. This was a Kodak Retina type 118 dating from 1935, with the rare Tessar lens and bought second-hand. I have examples of the VPK and a similar Retina and they both still produce perfectly good negatives.

**Peter McKenzie, Northumberland**



**The 1912 launch of the Vest Pocket Kodak sparked an unprecedented craze for photography**



### In AP 3 June, we asked...

Can digital black & white ever look as good as film black & white?

### You answered...

- A** Yes – it's not about the medium **39%**
- B** No, black & white film has unique tones and grain that will always look better **34%**
- C** In some cases, if you are skilled with Lightroom and Photoshop **18%**
- D** Yes, digital black & white looks better than film **2%**
- E** I don't shoot black & white – either on film or digitally **7%**

### What you said

'Depends what you're after. I've fallen in love with working with film, and I love the aesthetic of the experimental side. But if you're after quick, clean and crisp – digital is great.'

'I did darkroom work many years ago and really enjoyed it. Depending on the paper, toners etc, the look is distinctive and it's hard to replicate that digitally. Having said that, I enjoy black & white more now because the digital process is not messy and I can do it again if it's not quite right!'

'I spent 30 years working with film. In 2000, I started shooting digitally, and loved the freedom and speed it brought. Can you manipulate the tone curve on film, adjust all the highlights and shadows in one click?'

'It's like saying a classic Ferrari is better than a new one. Each has its plus and minus points.'

### Join the debate on the AP forum

### This week we ask...

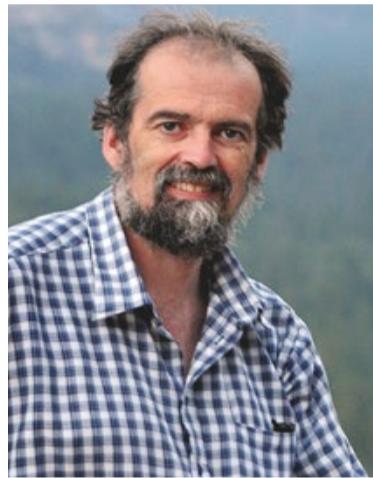
What aspects of composition do you find most challenging?

**Vote online [www.amateurphotographer.co.uk](http://www.amateurphotographer.co.uk)**

# My life in cameras

Environmental photographer John Gilbey discusses the cameras that helped him to make the transition from film to digital

## John Gilbey



John Gilbey is a writer and photographer based in west Wales. His work has appeared in the *Guardian*, the *International New York Times*, the science journal *Nature*, *New Scientist*, *Times Higher Education* and a host of other publications. An environmental scientist by training, he travels widely to research articles at first hand – adding to his extensive portfolio of landscape, ecological and technology images. He tweets as @John\_Gilbey.

### 1974 Praktica VLC

This eccentric chunk of East German technology was my constant companion throughout university. The M42 mount gave me access to a wide range of lenses, although the 'Electric' Carl Zeiss Jena ones giving it open-aperture metering were harder to find. It survived two months on an Arctic expedition when some pricier offerings were failing.



### 1995 Nikon F3HP

My first professional camera, the F3 was beautifully engineered and a joy to use. Light and compact, it makes an ideal travel companion. As manual AI-S lenses fell out of fashion, I managed to put together a great set of Nikkor primes on a tight budget. While I later supplemented the camera with an F5, I still use the F3 for walking trips – and it works perfectly.



East of Grand Junction, Colorado – shot with the Nikon D800

### 2001 MPP Micro Technical Mark VIII

Sometimes you just need a bigger piece of film, especially when working with landscapes – so when I came across this 5x4in outfit I didn't hesitate to buy it. Working on large format slows you down and makes you think, not least because of the cost of each exposure. Printing is another matter, my De Vere 504 enlarger is nearly 8ft high!



### 2008 Nikon D300

With editors starting to spurn film contributions, the time had come to move into digital. The D300 was the obvious choice, as it would meter with all my old AI-S lenses. The excuse to buy it was a surprise invitation to Google in California – plus an amazing visit to Yosemite. Keep the ISO low and it still provides excellent image quality, making it a good backup body.



### 2015 Nikon D800

The attraction of 36MP and a full-frame sensor sold the D800 to me, the tipping point being a trip to Wyoming, Colorado, Utah and Nevada. Treat it well and it will reward you, but the extraordinary detail it resolves is certain to reveal any sloppy technique! Utterly reliable and hugely versatile, it literally paid for itself on its first trip to the States. What next? Who knows?





cliftoncameras

**SIGMA**  
3 YEAR WARRANTY

Get in touch  
Get Support  
Get Shooting!

Pay nothing until 2017 on most Sigma lenses



## 35mm f1.4 DG HSM Art

Improve your photography with this super fast 35mm f1.4 Art lens - ideal for low light, artistic expression and bokeh effect

Our Price **£649.00** or pay £17.72 per month

### SUPER ZOOM

18-300mm F3.5-6.3 DC MACRO OS HSM

Zoom-macro for enhanced macro photography



Our Price **£369.00**  
or pay £9.53 per month

### PORTRAIT PHOTOGRAPHY

**NEW** 85mm f1.4 DG HSM Art Lens

With all the resolving power for 50-megapixel or higher cameras, this is the ultimate lens for portraits and more.



PRE ORDER TODAY

Our Price **£999.00**  
or pay £27.28 per month

### MACRO PHOTOGRAPHY

105mm f2.8 EX DG OS HSM

Delivers superb, distortion-free images throughout its broad focus range.



Our Price **£359.00**  
or pay £9.80 per month

### DP Quattro

Reinvention of the Camera



Stunning image quality with Foveon X3 Direct Image Sensor

DP0 Quattro (Ultra-wide) .... **£749.00** - £20.45 p/m  
DP1 Quattro (Wide) .... **£749.00** - £20.45 p/m  
DP2 Quattro (Standard) .... **£749.00** - £20.45 p/m  
DP3 Quattro (Mid-tele) .... **£749.00** - £20.45 p/m



### FLASH

EF-610 DG Super £169.00  
EF-610 DG ST £109.00

Features a powerful Guide Number of 61 designed to work with the latest TTL auto exposure systems of all popular digital and film SLR cameras.

### HIGH PERFORMANCE

50mm F1.4 DG HSM Art Lens

A high performance, large diameter lens that has been further developed to satisfy photographers demands for superb image quality.



Our Price **£599.00**  
or pay £16.35 per month

### WILDLIFE & SPORTS PHOTOGRAPHY

150-600mm f/5-6.3 DG OS HSM C

A lightweight hyper-telephoto zoom lens featuring high usability and outstanding optical performance. The latest fine lens in our Contemporary line.



Our Price **£799.00**  
or pay £21.82 per month

150-600mm f/5-6.3 DG OS HSM S

Covering every essence. Portable, durable and of a high-standard - A Masterpiece of hyper-telephoto zoom lens.



Our Price **£1329.00**  
or pay £36.29 per month

Buy Now Pay Later and Interest Free are finance products provided by V12 Retail Finance. Any advertised finance products are always subject to age, status and terms & conditions. For full details of our retail finance options visit [www.cliftoncameras.co.uk/finance1](http://www.cliftoncameras.co.uk/finance1)

Clifton Cameras Ltd is registered in England & Wales 5859660. Registered Office: 28 Parsonage Street, Dursley, GL11 4AA. Clifton Cameras Ltd acts as a credit broker and only offers credit products from Secure Trust Bank PLC trading as V12 Retail Finance. Clifton Cameras Ltd is authorised and regulated by the Financial Conduct Authority. Our registration number is 64436. Credit provided subject to age and status.



[www.cliftoncameras.co.uk](http://www.cliftoncameras.co.uk)

email: [sales@cliftoncameras.co.uk](mailto:sales@cliftoncameras.co.uk)

E&OE Prices correct at time of print but are subject to change

28 Parsonage Street  
Dursley  
Gloucestershire  
GL11 4AA

tel: 01453 548 128

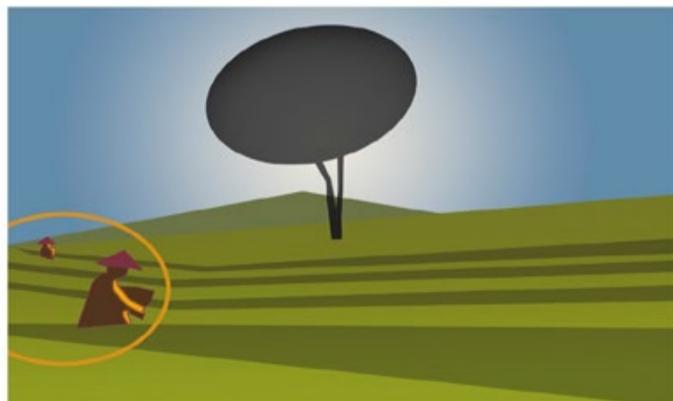
Opening Hours 9:00am - 5:30pm  
Monday - Saturday





## Symmetry plus asymmetry

Here the tree is solitary and striking, so it could play an important part in the composition. A conventional approach would be to balance a picker and the tree across the frame, and the smaller image (right), taken later, shows this. It is acceptable, but a little obvious. Instead, I made the tree take centre stage, with the sun directly behind it (see above), to dominate everything. Then I framed it so that the tea pickers were very asymmetric – first to delay the viewer's attention a little, and second to shift attention to the rows of tea bushes. The eye will naturally find its own balance, and in this case it finds balance in the rows of tea on the right.

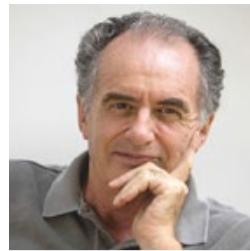


The tea pickers are very asymmetric, which delays the viewer's attention and highlights the tea bushes



The eye is directed effectively around the frame





## Michael Freeman

One of the most widely published photographers in the world, Michael Freeman has worked on more than 130 books covering subjects as varied as Angkor, Sudan, the Shakers, and contemporary Japanese design and architecture. He travels for half of each year shooting assignments, principally in Asia. Visit [www.michaelfreemanphoto.com](http://www.michaelfreemanphoto.com)

# Sharpen your eye

Artful composition is a reliable way of putting your own personal stamp on a photograph, says **Michael Freeman**, but being original often requires you to ignore the so-called 'rules'

**The two pickers on the extreme left are unexpected, and it makes the eye find balance in the rows of tea bushes on the right**

**The viewpoint, framing and sky ensure that attention moves firmly towards the centre, with a cross-current moving left to right following the planted rows**

**N**o one disputes the need to be totally familiar with your camera and lenses, so you can confidently capture anything in just about any light and at any speed. The problem is that obsessing with accuracy takes attention away from the more important business of simply making interesting pictures.

Of all the ingredients that go into a photograph, composition is the one that is completely and directly under your control. Most of what photographers deal with on a daily basis, like weather, light, action and events, is out of our control, which makes composition the one reliable way of putting your own personal stamp on a picture. It lets you make the photograph yours, and unlike other people's pictures, which in these days of images by the trillion is more important than ever. However, that means not following prescriptions such as the ridiculous rule of thirds.

The whole subject of composition suffers from too much advice – advice that's passed on and repeated. There's a common assumption that photographs ought to be designed in a way that's acceptable to most people. Sounds reasonable? Sure, but it's also a little boring. I call this polite composition, and it will get you exactly where you expect.

A Kodak guide to composition defined its mission statement as, 'one definition for photographic composition is simple: the pleasing selection and arrangement of subjects within the picture area.' Well, 'pleasing' isn't going to get you noticed.

A first step, and one that all serious photographers continue to do, is to spend time absorbing the work of other photographers, not just for inspiration but also to know where you stand and what you can aspire to in the world of photography. In particular, certain names stand out for their strong use of composition in different styles. As a start, try the work of Guy Bourdin, Ernst Haas, Siegfried Hansen, Henri Cartier-Bresson, Josef Koudelka and Saul Leiter. Some of them have specialised in selected styles. All of them have made a constant effort to experiment and challenge convention with the way they compose their images.

Rules are irrelevant in composition because they're designed to make things work consistently and expectedly, which is great for engineering but pretty well the opposite of what you want if you're trying to attract and entertain people in a creative activity like photography. It's better by far to think of styles of composition as shifting and developing, falling in and out of fashion, pleasing some people, irritating others. There





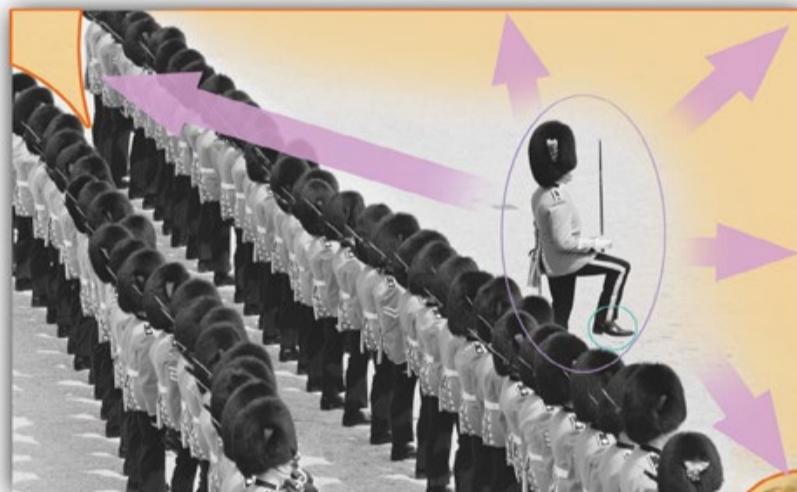
Without the all-important moment of the raised leg, the empty triangle of space would have diffused the viewer's attention outward, as shown by the arrows

► are many, and you're free to use any of them, or even invent one, although you might be surprised at what has already been invented.

Photography shares common ground with painting, and that has a huge legacy. Does extreme placement of a subject in a corner (French fashion photographer Guy Bourdin did a lot of this) seem fresh and radical? Well, fast backward to 12th and 13th century Southern Song dynasty in China, where 'one-corner' composition became all the rage. That was successful for a while because it was unexpected, and the emptiness left room for the imagination. In photography it's slightly different in that the 'empty' part is still filled with something real, but the eye finds this intriguing.

Generally, that's what imaginative composition can do – be interesting. The first duty in creative photography is not to be repetitive. There's too much boring, prescriptive photography in our lives, but by thinking about how you compose you can challenge the obvious. Give the viewers what they think they want and you won't be thanked half as much as when you show them something they hadn't yet thought of.

Being a little surprising takes some on-the-spot imagination. At the very least, you can take the obvious as a starting point, and try playing against that. Although not radical as a composition, the shot on page 12 of tea picking in China combines two things not

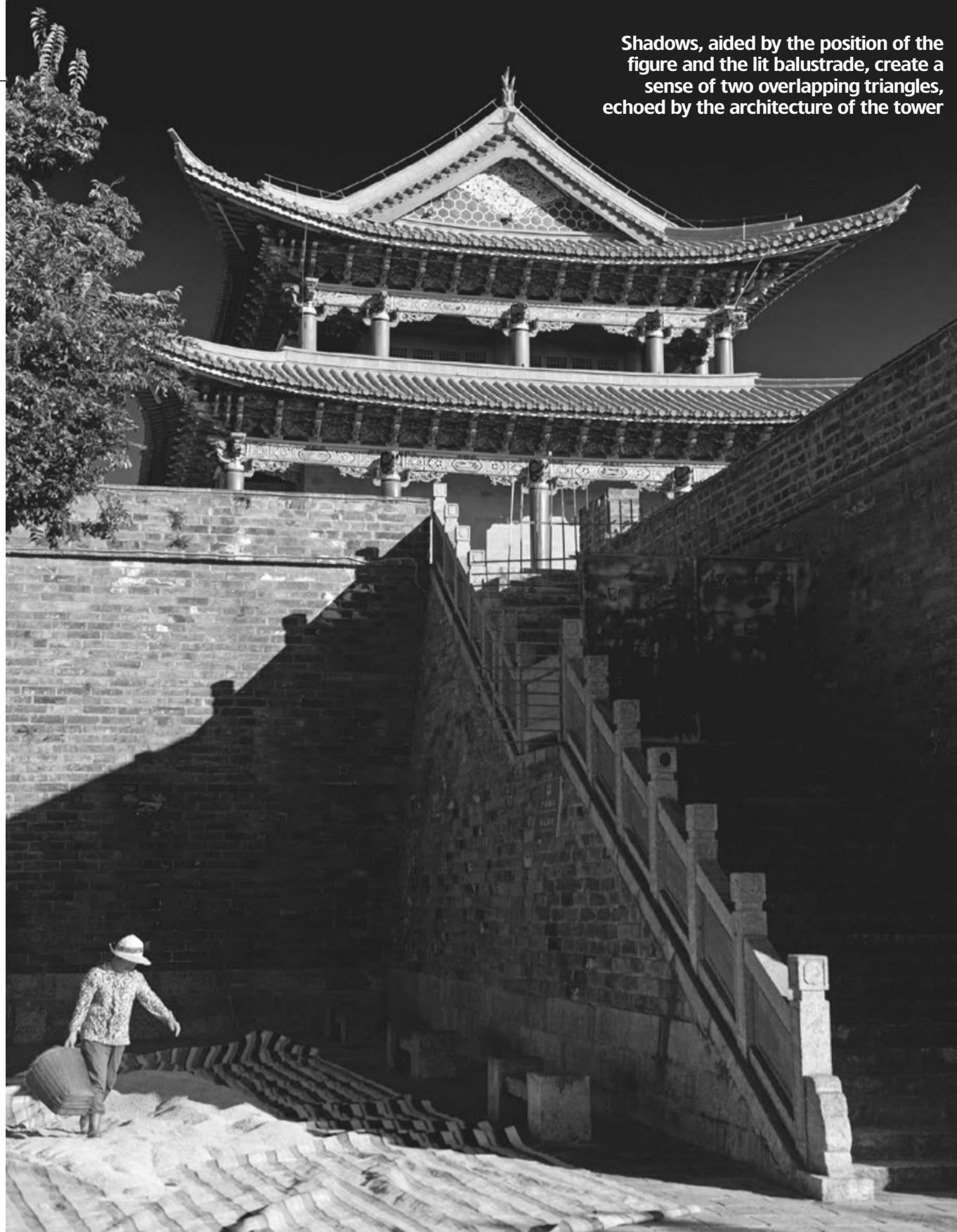


## Directing the eye

The annual Trooping the Colour ceremony is so thoroughly over-photographed, and the viewpoints so controlled (you can't move from your seat), that making a different image is a challenge. Concentrating on graphic composition came to the rescue, tight in with a longer lens to simplify the design and reduce the number of elements. The smaller shot shows the wider, less eye-catching view.



The wider view was more predictable



Shadows, aided by the position of the figure and the lit balustrade, create a sense of two overlapping triangles, echoed by the architecture of the tower

**'The first job of creative photography is not to be repetitive. There is too much boring imagery in our lives'**



### Applied geometry

One strong style in composition (strong in appearance, that is) involves finding clear geometrical shapes in the scene, and then combining or playing with those. Probably simplest and most straightforward of all shapes is the triangle, and our eyes need only a little encouragement to find the three points or the diagonals that create one (inverted triangles can also be effective). In this example (left and above) hard sunlight casts deep shadows that make two overlapping dark triangles. Timing the shot for the figure to make one corner strengthened the effect.



Shooting from exactly in front of the building and van gives the image an architectural formality, in deliberate contrast to the sky behind

### Squaring up

While diagonals bring energy to an image, sometimes what's needed is the stability and calmness of the rigid horizontals and verticals that come from a flat-on view. In this case, the isolated rectangular frontage of the building and its colour-matched VW camper van make a static contrast to the lively storm clouds and rainbow behind. Finding an exact viewpoint to avoid skewed lines takes longer than most shots.



normally in the conservative rule book. One is a centred bull's-eye framing, the other is placing the action far into one corner, so you could say that from one point of view it's unbalanced. This was an assignment on tea, and there was both time and cooperation to ask the pickers to move, but I preferred to keep it real.

As I mentioned earlier, it really is important to know what other people do with their composition. When you find photographs that catch your attention, look at how the photographer did it, what design techniques they used — what style. The strip of six selected styles [see below] is just a sample. Keep looking and you'll find more. Sometimes the subject suggests a style, such as a building façade and a squared-up treatment. At times it may be the way you feel, such as an extreme corner composition if you want to be really striking and different. Perhaps the weather and light offer an opportunity, such as a fog for a minimalist, simplified composition. Although some styles will attract you more than others, there's no reason to try to rank them. They don't really compete with each other to be best any more than the choice on a restaurant menu. Instead, they offer variety.

Composition never stays still. When we become familiar with one way of designing a picture, it's human nature to want to move on. That's the same in every creative area, and it's healthy. Things fall in and out of fashion. For many commentators that's a sign of triviality and people not really knowing what they want, but a more positive way of looking at this popularity is that it keeps things dynamic and ever-changing. It's the opposite of saying that only this and this are good and approved.

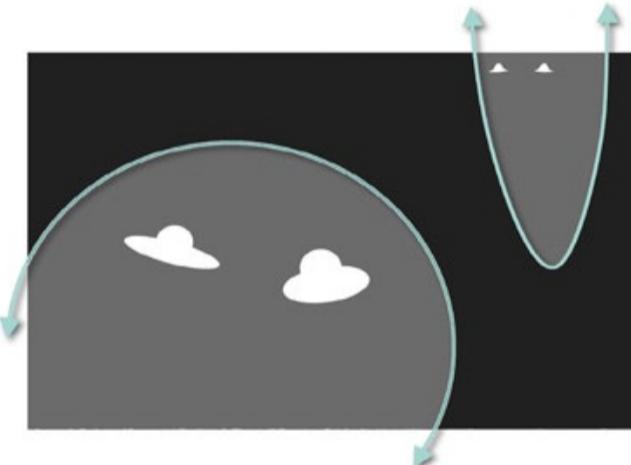
Resist all encouragement to conform!

**Michael's latest book is a 10th anniversary edition of *The Photographer's Eye*, published by Ilex.**

AP



Processing to high contrast in black & white simplifies the geometry of the shot, and directs the viewer's eye to the comparison (above). In colour, the red of the woman's dress is completely distracting (below)



## Emphasising juxtaposition

Juxtaposition means finding visual matches in a scene, and it's a major tool in photography. This is a gentle juxtaposition — between two pairs of hats in this tea-picking scene — and needed a little help. First, I chose black & white to remove any colour distraction. Next, I found

a viewpoint that gave two internal 'windows' provided by the foreground tree, as the schema illustrates. All of this was an attempt to make something of a scene that was quite harshly lit and contained some seriously distracting colours.

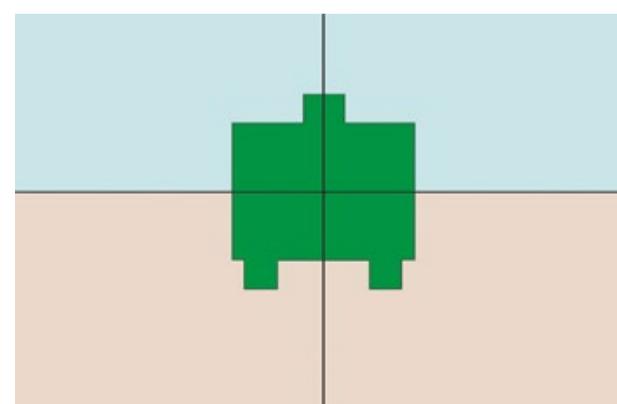
## THINK DIFFERENTLY: ALTERNATIVE STYLES FOR COOL COMPOSITIONS



### Extreme asymmetric

Strikingly eccentric placement, such as having the main subject in one corner of an otherwise 'empty' frame.

**Example: Guy Bourdin**



### Symmetric

Centred placement and arrangement of the main subject — this works best when it's not really expected.

**Example: Reinhart Wolf**



### Flat-on and squared-up

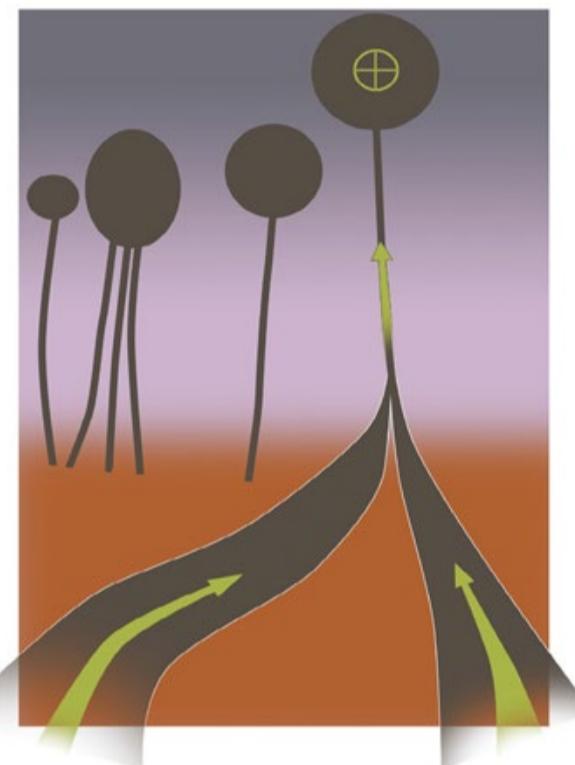
When the subject has a flat plane (like a building façade) and it's aligned to the camera plane — verticals and horizontals.

**Example: Bernd and Hilla Becher**

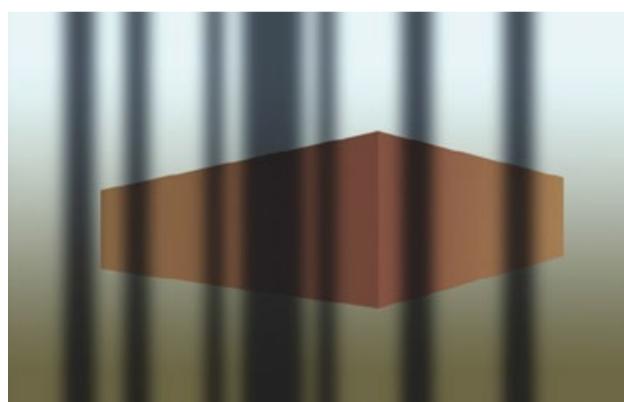


## Structure and serendipity

As with the triangles in the shot of the Chinese gate tower (see page 15), finding some kind of geometric structure is one way of putting your individual point of view on an image, yet the opportunity can often be a surprise, as here (see left and below). The grouping of the people briefly and unexpectedly turned into a shape (a triangle) that neatly flowed upward to the leaning palm tree, and it took just a few steps to position the camera to make everything align. Keep your eyes open for such opportunities.



**Left:** Rat catchers gather before dawn in Tamil Nadu, India, to begin the day's work of clearing a rice field. The figures from this viewpoint form a triangle that curves on the left, and the converging structure gives coherence to the entire frame



### Layered

Two or more layers of distance in the same image, such as using an overlaid reflection or strongly blurred out-of-focus foreground.

**Example:** Saul Leiter



### Geometric

Dividing the frame into strongly edged shapes. Also frequently unexpected juxtapositions created by viewpoint and framing.

**Example:** Siegfried Hansen



### Neat fit

Subjects (such as people) separated and fitting neatly into frames, gaps and spaces. This works best when skilfully applied, but it's tricky.

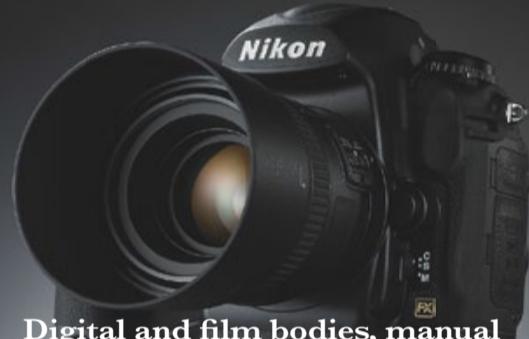
**Example:** Henri Cartier-Bresson

## MOVE UP TO A **Nikon**



Nikon Df

THE WIDEST RANGE  
OF SECOND-HAND  
**Nikon**



Digital and film bodies, manual  
and autofocus lenses, speedlights,  
close-up equipment and  
thousands of Nikon accessories  
all under one roof.

For more information contact  
020-7828 4925

### WANTED FOR CASH



We are always seeking mint  
or near-mint examples of  
Nikon FM3A, FM2 & F3HP  
cameras and manual focus  
Nikkor lenses

Please telephone  
020-7828 4925  
for our offer today

#### NIKON DIGITAL CAMERAS

Nikon D5 DSLR body.....	£5,085.00
Nikon D810A (Astrophotography) DSLR body.....	£2,890.00
Nikon D810 DSLR body.....	£2,390.00
Nikon D810 + MB-D12 Grip Kit.....	£2,699.00
Nikon D810 + AF-S 14-24mm f/2.8G ED Nikkor.....	£3,899.00
Nikon D810 + AF-S 24-70mm f/2.8E VR.....	£4,175.00
Nikon D810 + AF-S 14-24mm & 24-70mm f/2.8E VR Kit.....	£5,590.00
Nikon MB-D12 Grip for D810.....	£299.00
Nikon D750 DSLR body.....	£1,590.00
Nikon D750 + MB-D16 grip Kit.....	£1,839.00
Nikon D750 + AF-S 24-85mm f/3.5-4.5G ED VR Kit.....	£2,045.00
Nikon D750 + AF-S 24-120mm f/4G ED VR Kit.....	£2,270.00
Nikon D610 DSLR body.....	£1,289.00
Nikon D610 + MB-D14 Grip Kit.....	£1,349.00
Nikon D610 + AF-S 24-85mm f/3.5-4.5G ED VR Nikkor MB-D14 Grip for D610.....	£1,669.00
Nikon D500 DSLR body.....	£1,670.00
Nikon D500 + 16-80mm f/2.8-4E ED.....	£2,470.00
Nikon MB-D17 grip for D500.....	£349.00
Nikon D7500 DSLR body (sales start June).....	£1,299.00
Nikon D7200 DSLR body.....	£829.00
Nikon D7200 + 18-105mm f/3.5-5.6G VR DX IF-ED Kit.....	£999.00
Nikon D7200 + MB-D15 Grip Kit.....	£1,045.00
Nikon D7100 DSLR body.....	£689.00
Nikon D7100 + MB-D15 Grip Kit.....	£869.00
Nikon D7100 + 18-105mm f/3.5-5.6G VR DX IF-ED Kit.....	£875.00
Nikon D7100 + 18-140mm f/3.5-5.6G VR DX ED Kit.....	£1,095.00
Nikon D5600 SLR body.....	£649.00
Nikon D5600 + AF-P 18-55mm f/3.5-5.6G VR DX Kit.....	£699.00
Nikon D5600 + AF-S 18-140mm f/3.5-5.6G VR DX ED Kit.....	£875.00
Nikon D5300 DSLR body.....	£419.00
Nikon D5300 + AF-P 18-55mm f/3.5-5.6G VR DX Kit.....	£495.00
Nikon D5300 + AF-S 18-140mm f/3.5-5.6G VR DX Kit.....	£665.00
Nikon D3400 DSLR body.....	£349.00
Nikon D3400 + AF-P 18-55mm f/3.5-5.6G VR DX Kit.....	£439.00
Nikon Df + AF-S 50mm f/1.8G Special Edition.....	£2,249.00
Nikon Df DSLR body, chrome or black finish.....	£1,995.00
Nikon Df + AF-S 50mm f/1.8G SPECIAL GOLD Edition.....	£5,000.00

#### NIKON 1 SYSTEM

Nikon 1 V3 10-30mm + Grip Kit.....	£795.00
Nikon 1 AW1 + 11-27.5mm f/3.5-5.6.....	£549.00
Nikon 1 AW1 + 11-27.5mm f/3.5-5.6 + 10mm f/2.8.....	£695.00
Nikon 1 J5 + 10-30mm PD Zoom lens, black.....	£345.00
Nikkor VR 6.7-13mm f/3.5-5.6.....	£375.00
Nikkor VR 10-30mm f/3.5-5.6.....	£225.00
Nikkor VR 30-110mm f/3.8-5.6.....	£179.00
1 Nikkor VR 70-300mm f/4.5-5.6.....	£745.00
1 Nikkor AW 10mm f/2.8.....	£245.00
1 Nikkor 18.5mm f/1.8.....	£145.00
1 Nikkor 32mm f/1.2.....	£599.00
1 Nikkor VR 10-100mm f/4.5-5.6 PD-Zoom.....	£529.00
Nikon SB-N7 Speedlight.....	£119.00
Nikon GP-N100 GPS Unit.....	£99.00
Mount adapter FT1.....	£199.00

#### AF-S & AF DX NIKKOR LENSES

10.5mm f/2.8G AF DX ED Fisheye.....	£569.00
AF-S 35mm f/1.8G DX.....	£165.00
AF-S 10-24mm f/3.5-4.5G IF-ED DX.....	£709.00
AF-S 12-24mm f/4G IF-ED DX.....	£939.00
AF-S 16-80mm f/2.8-4E ED VR DX.....	£839.00
AF-S 16-85mm f/3.5-5.6G ED VR DX.....	£539.00
AF-S 17-55mm f/2.8G DX IF-ED.....	£1,275.00
AF-P 18-55mm f/3.5-5.6G VR DX.....	£199.00
AF-P 18-55mm f/3.5-5.6G DX.....	£149.00
AF-S 18-55mm f/3.5-5.6G VR II ED DX.....	£149.00
AF-S 18-105mm f/3.5-5.6G VR DX IF-ED.....	£225.00
AF-S 18-140mm f/3.5-5.6G VR DX ED.....	£445.00
AF-S 18-200mm f/3.5-5.6G VR II DX IF-ED.....	£595.00
AF-S 18-300mm f/3.5-5.6G ED VR DX.....	£839.00
AF-S 18-300mm f/3.5-6.3G ED VR DX.....	£575.00
AF-S 55-200mm f/4-5.6G DX ED VR II.....	£219.00
AF-S 55-300mm f/4.5-5.6G DX VR.....	£289.00
AF-P 70-300mm f/4.5-6.3G ED VR DX.....	£289.00
AF-P 70-300mm f/4.5-6.3G ED DX.....	£245.00

Prices include 20% VAT. Prices Subject to Change. E&OE.

#### AF FX NIKKOR LENSES

14mm f/2.8D AF ED.....	£1,270.00
16mm f/2.8D AF Fisheye.....	£649.00
20mm f/2.8D AF.....	£479.00
24mm f/2.8D AF.....	£379.00
28mm f/2.8D AF.....	£249.00
35mm f/2D AF.....	£265.00
50mm f/1.8D AF.....	£109.00
50mm f/1.4D AF.....	£249.00
105mm f/2D AF-DC.....	£859.00
135mm f/2D AF-DC.....	£1,075.00
180mm f/2.8D AF IF-ED.....	£729.00

#### AF-S FX SILENT WAVE NIKKOR LENSES

AF-S 20mm f/1.8G ED.....	£635.00
AF-S 24mm f/1.8G.....	£599.00
AF-S 24mm f/1.4G ED.....	£1,775.00
AF-S 28mm f/1.8G.....	£529.00
AF-S 35mm f/1.4G.....	£1,489.00
AF-S 35mm f/1.8G ED.....	£419.00
AF-S 50mm f/1.4G IF.....	£369.00
AF-S 50mm f/1.8G.....	£179.00
AF-S 58mm f/1.4G.....	£1,339.00
AF-S 85mm f/1.8G.....	£419.00
AF-S 85mm f/1.4G.....	£1,325.00
AF-S 105mm f/1.4E ED.....	£1,775.00
AF-S 14-24mm f/2.8G IF-ED.....	£1,525.00
AF-S 16-35mm f/4G ED VR.....	£989.00
AF-S 17-35mm f/2.8D IF-ED.....	£1,490.00
AF-S 18-35mm f/3.5-4.5G.....	£589.00
AF-S 24-70mm f/2.8G IF-ED.....	£1,449.00
AF-S 24-70mm f/2.8E VR.....	£1,835.00
AF-S 24-85mm f/3.5-4.5G ED VR.....	£419.00
AF-S 24-120mm f/4G ED VR II.....	£919.00
AF-S 28-300mm f/3.5-5.6G ED VR.....	£769.00
AF-S 70-200mm f/2.8E FL ED VR.....	£2,540.00
AF-S 70-200mm f/2.8G VR II IF-ED.....	£1,890.00
AF-S 70-200mm f/4G VR IF-ED.....	£1,139.00
AF-S 70-300mm f/4.5-5.6G VR IF-ED.....	£489.00
AF-S 80-400mm f/4.5-5.6G VR II ED.....	£2,069.00
AF-S 200-400mm f/4G VR II IF-ED.....	£5,790.00
AF-S 200-500mm f/5.6E VR ED.....	£1,135.00
AF-S 200mm f/2G VR II IF-ED.....	£4,690.00
AF-S 300mm f/4E PF ED VR.....	£1,439.00
AF-S 300mm f/2.8G VR II IF-ED.....	£4,689.00
AF-S 400mm f/2.8E VR FL ED.....	£9,890.00
AF-S 500mm f/4E FL ED VR.....	£7,990.00
AF-S 600mm f/4E FL ED VR.....	£9,635.00
AF-S 800mm f/5.6E VR FL ED (inc. TC-800-1.25E ED teleconverter).....	£14,390.00
TC-14E III 1.4x teleconverter.....	£415.00
TC-17E II 1.7x teleconverter.....	£335.00
TC-20E III 2x teleconverter.....	£385.00

#### AF & AF-S MICRO-NIKKOR LENSES

AF-S 40mm f/2.8G DX Micro.....	£229.00
60mm f/2.8D Micro.....	£399.00
AF-S 60mm f/2.8G ED Micro.....	£485.00
AF-S 85mm f/3.5G VR DX IF-ED Micro.....	£429.00
AF-S 105mm f/2.8G AF-S VR Micro IF-ED.....	£729.00
200mm f/4D AF Micro IF-ED.....	£1,239.00

#### NIKON SPEEDLIGHTS

SB-5000 Speedlight.....	£459.00
SB-700 Speedlight.....	£229.00
SB-500 Speedlight.....	£179.00
SB-300 Speedlight.....	£109.00
SB-R1C1 Close-Up Commander Kit.....	£569.00
SB-R1 Close-Up Remote Kit.....	£399.00
SU-800 Wireless Speedlight Commander.....	£319.00
SB-R200 Wireless Remote Speedlight.....	£139.00

#### MANUAL FOCUS NIKKOR AIS LENSES

20mm f/2.8 Nikkor.....	£901.00
24mm f/2.8 Nikkor.....	£608.00
28mm f/2.8 Nikkor.....	£615.00
35mm f/1.4 Nikkor.....	£1,227.00
45mm f/2.8 Nikkor, chrome.....	£325.00
50mm f/1.4 Nikkor.....	£597.00
50mm f/1.2 Nikkor.....	£855.00

#### SPECIAL PURPOSE



PROBABLY THE WIDEST RANGE  
OF NEW & SECOND-HAND  
**Nikon** IN THE WORLD

020-7828 4925

EST. 1985 – THE KIND OF SERVICE OF WHICH LEGENDS ARE MADE

# JOIN THE DARK SIDE

## THE **Nikon D5**

12 Months Interest-Free  
Credit on the Nikon D5  
until 24th June 2017!



### Key features include:

- New 20.8mp FX format sensor.
- 153 Autofocus point system with 99 cross-type AF sensors.
- Up to 12 frames per second in Continuous High speed shooting mode, or 14fps with the mirror up.
- 200 NEF (RAW) file capacity buffer allowing for never before possible continuous shooting capabilities.
- A standard ISO range of 100 to 102,400, extendable up to 3,280,000 ISO equivalent.
- Thanks to a brand-new EXPEED 5 processor one can shoot at these high ISOs with low noise.
- A new 8.0 cm (3.2 in.), 2360k-dot LCD monitor, which offers touch operation in review mode.
- 4K/UHD high definition D-Movies (3840x2160 pixels) can be recorded at 30p/25p/24p as well as 50p and 60p in (full HD) 1080p, and the camera offers clean HDMI output in all qualities.
- Available as an XQD version with two XQD card slots to handle the camera's 200 RAW file frame bursts, but also available as a CF card version for those who require it.
- New WT-6 for even faster wireless transfer speeds over a distance of up to 200m.

Nikon D5 DSLR Body only £5,085.00 inc. VAT



ORDER YOUR D5 TODAY  
020-7828 4925

# White Helleborine at twilight

## By Robert Canis

**Robert Canis** reveals the story as well as the technique behind his beautiful silhouetted image of a white helleborine at twilight

I have always enjoyed photographing plants, and although I very much consider myself to be a 'generalist' (in terms of nature photography) I have always had a soft spot for plants and fungi. Photographing flowers requires a very different mindset to shooting wildlife. In the case of wildlife, you need to be on your guard and prepared for the unexpected, whereas with flowers I find a more contemplative and slow approach is required. With wildlife, you are often dealing with what is in front of you at that moment in time with little control over where or when it will appear. With flower photography, on the other hand, you can experiment with viewpoints, lens selection and differential focus. You can take as much time as you want and even return another day in more favourable conditions. In short, you have unlimited creative possibilities which, in

part, is what I so enjoy about this area of photography.

Like so many of us, I am forever striving to attempt different techniques in the hope of producing something fresh and original, to draw the viewer in and look more closely as opposed to merely moving from one image to another. It really is a difficult task in these days of social media, where so much outstanding imagery is posted daily.

However, in the spring of 2014, while photographing wood anemones, I happened upon a method of photographing these small delicate flowers in a way that I had rarely seen before. The sun had long since set and the sky was turning a deep inky blue, and there, as I walked along the path, was an anemone at eye level, growing on a fallen tree stump silhouetted against the twilight sky. I spent the next 30 minutes or so attempting to record this, and the resulting image spurred

### Robert Canis

Robert Canis is a professional nature photographer living in Kent, England. He is represented by three international agencies and has been the recipient of numerous awards in such competitions as the Wildlife Photographer of the Year, Bird Photographer of the Year and British Wildlife Photography Awards. See more at [www.robertcanis.com](http://www.robertcanis.com).



© ROBERT CANIS



**Robert's image of a white helleborine**  
**Nikon D300S, Nikon 200mm Micro, 0.8sec at f/4, ISO 200, beanbag, cable release, mirror lock**

me on to investigate the technique further. I was excited. There were so many possibilities and, furthermore, from what I could see, few images had been created during this hour so I would be producing something different from the norm. Also, as it wasn't weather dependent and my local woods lay just a ten-minute journey away, even if I'd spent the day at home processing images I could still pop out for a couple of hours, thereby ensuring I remained productive.

### The perfect time

Twilight or the 'blue hour' is defined as being the period between daybreak and sunrise, and between sunset and night. To be more exact, when the sun falls below 18° you enter nightfall and when the sun rises to 18° above the horizon you enter daybreak or dawn. How long this lasts depends on your location and climatic conditions. In general, though, it does so for approximately 1 hour. My quest for photographing flowers at twilight would be confined to the evening, as from a practical standpoint it made much more sense than struggling to locate a suitable subject pre-dawn. My aim, therefore, for about a month, was to photograph plants during this period. My aim turned into an obsession, and as spring rolled into summer I would head out an hour before sunset to seek out an image and begin shooting as the sun slipped below the horizon. Often I would go out with a specific photograph in mind, but mostly I would simply see what I could find. I soon learned that no matter how interesting an image looked through the viewfinder as sunset approached, its appearance would change, rapidly, as the light faded. Warm tones would turn blue, the flower's intricate details would slowly disappear and gaps through trees would emerge revealing an aperture in which to place the subject's silhouette.

The white helleborine has a most graceful silhouette and would, I thought, be the perfect subject for this kind of

### FAVOURITE KIT

FOR ALL my twilight images I used either the 105mm or 200mm Micro lens. Working distance and the relationship between the flower and background dictated focal length. On this occasion I opted for the 200mm lens, which provided a good working distance and, importantly, kept me a safe distance from other plants. Due to the extremely low perspective, the camera had to be placed on a beanbag. I don't like to lie down in such environments, which would normally be necessary here, in order to look through the viewfinder. I'm constantly aware of the impact I might make on the immediate area and flattened vegetation is something I wince at. How many of us, for example, have seen just this in bluebell woods? Because of this (and to avoid a cracked neck) I employed the use of a right-angle viewing attachment as well as a small torch to aid focusing. I activated live view, zoomed in to the flower and focused manually. When the wind dropped, I then switched off the torch and fired the shutter.

**Lens of choice – the 200mm f/4 AF Micro Nikkor Lens**



photography. So, one spring afternoon, 14 months on from when I first started this project, I found myself visiting a local nature reserve where I had photographed them previously. The plants were in pristine condition, and with that evening's forecast looking favourable (clear sky and still) I arrived with time to seek out and work on a suitable specimen. As I crawled around on all fours, with knees pricked by thistles, I began my search, but no matter how hard I looked I couldn't, for the life of me, 'see' the image. I persevered and as sunset turned to twilight, a gap in the distant trees emerged and there it was – a perfectly formed helleborine dropped into place. The obsession continues...

# Free for all

The **Google Nik Collection** comprises seven desktop plug-ins that provide a powerful range of photo-editing capabilities – and they're free.

**Rick Macarthur** takes a look at one of the industry's best plug-in suites

The Google Nik Collection ([www.google.com/nikcollection](http://www.google.com/nikcollection)) has a long history. It's a suite of plug-ins originally published individually by Nik Software, then amalgamated into a single – and expensive – suite. Google bought the suite, put it on sale at a much-reduced price and then added the Analog Efex Pro plug-in. Since then, it's dropped the price tag altogether and made the collection free. The development has now stopped and there are no plans to update the collection, but photographers can use one of the industry's best plug-in suites for nothing.

There are seven plug-ins in the collection, and some are more useful than others. Analog Efex Pro 2, Color Efex Pro 4, HDR Efex Pro 2 and Silver Efex Pro 2 are powerful effects tools combining one-click presets with in-depth manual adjustments. Viveza 2 is designed for localised image adjustments, while Dfine 2 and Sharpener Pro 3 are for image enhancement, not effects, offering noise reduction and image sharpening respectively.

#### Analog Efex Pro 2

Analog Efex Pro 2 is the only plug-in in the collection to be designed by Google rather than Nik Software. Like other film-simulation plug-ins, it offers a variety of retro/analog effects including grain, vignettes, bokeh and light leaks. It goes further, though, with double-exposure, movement and multi-lens effects, all of which can be combined for different looks.

You can start with Analog Efex Pro's collection of preset effects, which are organised into categories, and then adapt and modify these to create your own presets. Alternatively, you can start with the Camera Kit mode and build your own custom effects by selecting and combining filters and adjusting them individually.

#### Color Efex Pro 4

Color Efex Pro 4 takes the same approach as the other Nik Collection effects plug-ins, offering a library of preset effects

on the left side of the screen and manual controls on the right. It has 55 different filters (some more useful than others), but all of these can be combined to create more sophisticated composite effects – and these can be saved as Recipes.

It's this ability to stack filter effects that makes Color Efex Pro so powerful – plus its use of the control-point technology found across the collection. When you add a control point, it creates a selective mask that operates across a circular radius – you can change the radius of the effect, move the control point and adjust the brightness, contrast, saturation and other parameters within that radius.

Within its filter library, Colour Efex Pro offers regular image adjustments like Levels, extremely useful Graduated Filters and some nice 'old photo' effects.

#### Silver Efex Pro 2

Although Color Efex Pro and Analog Efex Pro can create some nice-looking black & white images, the king of monochrome in this collection is Silver Efex Pro 2. Silver Efex Pro 2



ALL PICTURES © RICK MACARTHUR

## RICK'S TOP TIPS



#### Stack filters in Color Efex Pro and save as Recipes

Color Efex Pro's filters are useful individually, but much more powerful when stacked in combination and saved as Recipes. This effect uses the Tonal Contrast, Detail Extractor, Reflector Efex, Levels & Curves, Colorise and Darken/Lighten Centre filters.



#### Make your final crop before you add a frame

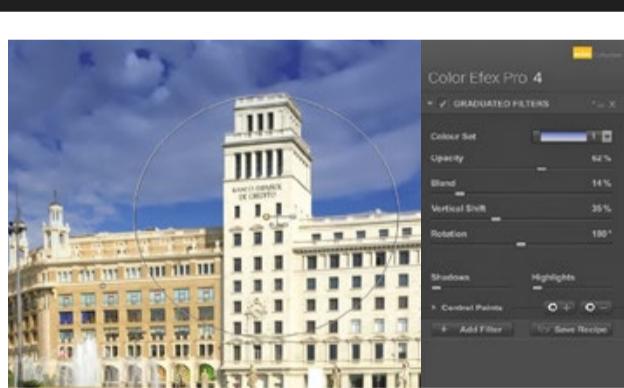
The Google Nik frame effects can look terrific, but think carefully about how the image is going to be printed or displayed and crop it to the right aspect ratio in your host application before opening it in a Google Nik plug-in – they don't have crop tools.



This effect is created by using a toned mono film type setting in Analog Efex Pro



This version uses the Detail Extractor slider in the Basic Adjustments panel in Analog Efex Pro



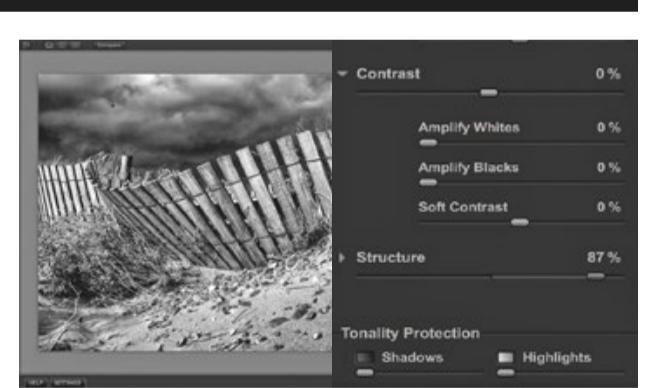
## Use Control Points for localised adjustments

Color Efex Pro's Graduated Filter, like all graduated-filter tools, also affects any buildings or other objects that jut up into the sky. However, this is easily fixed with a 'minus' control point that removes the filter from any area you click on.



## Experiment with HDR Efex Pro 2 on single images

HDR Efex Pro 2 can be used on single images, not just bracketed exposure series. Here it's in its side-by-side preview mode showing the effect of the Deep 1 preset (with some manual adjustments) on the rather flat-looking original image (above left).



## Add some structure

The Structure slider found throughout the Google Nik Collection is like a finer version of Lightroom's Clarity tool, adding tremendous 'bite' and contrast to image details. It's good to be aware that it will also exaggerate noise and especially sensor spots, so it's best used with some caution.



The filters in Color Efex Pro can be combined to produce a number of 'effect' recipes

offers simulations of classic film emulsions, powerful tonal controls that go way beyond the brightness, contrast and curve fixes that you find in regular image-editing software, and it uses Nik's control-point adjustments to provide all the dodging and burning controls you need for beautiful rich, monochromatic images.

The presets displayed on the left side of the screen are a good starting point, but it's just as easy to handcraft your own black & white look using the manual controls on the right, then save it as a custom preset.

You can finish off with vignette effects, edge 'burning' (left, right, top, bottom), some very nice toning effects and a selection of image borders.

## HDR Efex Pro 2

HDR imaging has a reputation for being difficult, partly because of the technical requirements for shooting a series of bracketed exposures and partly, perhaps, because a lot of HDR looks terrible. HDR Efex Pro 2, however, is much friendlier than the average HDR application, comes with a very varied selection of presets, and can produce some attractive and relatively realistic-looking HDR images with little effort. Best of all, perhaps, is that it's just as effective at tone-mapping single images (raw, ideally) as it is exposure brackets.

On the downside, the manual controls are a little complicated, not least because all HDR tools (not just this one) seem to generate their own bizarre technical jargon. If you stick with it, though, you'll find a small selection of presets and tools you come back to again and again.

## STEP-BY-STEP ANALOG EFEX PRO 2



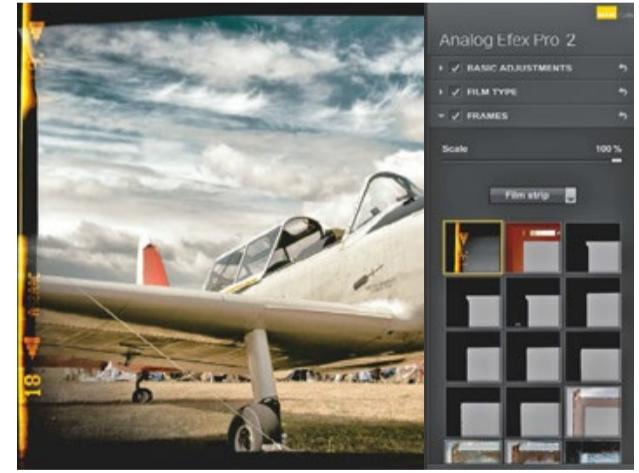
### 1 Basic Adjustments

Rather than using one of the Analog Efex Pro presets, we'll build our effect manually in the Camera Kit mode. The Basic Adjustments panel is a good place to start (it's also useful for fine tuning at the end). Pushing the Detail Extraction slider up to 70% makes the details much crisper, lightens the shadows and darkens the highlights.



### 2 Film Type

To add an effect from the Camera Kit list, you click the '+' button alongside it. Here we're adding a Film Type – these are unnamed, as they're not meant to replicate existing analogue films. We've chosen one of the film types in the Warm category to give this picture a slightly faded vintage look. The default Strength of 50% is about right.



### 3 Frames

Many digital photo-frame effects just look like tacky add-ons, but those in the Nik Collection can really enhance an image. Here we've added a Frame effect and chosen one from the Film Strip category to simulate the appearance of an old unmounted transparency – this kind of effect can really enhance the vintage analogue mood.

# COMING SOON



## EISA AWARDS 2017-18

### Celebrating the year's best products

EISA is the unique association of over 45 special interest magazines in hi-fi, home theatre, in-car electronics, mobile electronics, photo and video, from 23 European countries. Every year the EISA jury of experts rewards the best products in each class with a coveted EISA Award.

The 2017-18 EISA Awards will be announced on Aug 15th 2017

# SIGMA



Introducing Sigma's new full frame, high performance zoom lens. A new standard for the era of ultra-high-resolution image sensors.

**A** Art

## 24-105mm F4 DG OS HSM

Petal type lens hood and padded case included.

Available for Sigma, Canon, Nikon and Sony AF cameras.



More on our new product line-up:  
[sigma-global.com](http://sigma-global.com)

## Viveza 2

Viveza 2 is for image enhancement rather than special effects. It combines global image adjustments with control points to give you the colour equivalent of dodging and burning in black & white.

If you're used to making selections in Photoshop, you're going to find Viveza's control points weird at first. But you may warm to its approach and even find it faster and more intuitive than regular selections. You can quickly duplicate and group control points to adjust larger areas, and you can control adjustment 'overspill' with 'neutral' control points.

## Dfine 2

Dfine and Sharpener Pro are quite dated now and offer features handled as well, if not better, by editors such as Lightroom and Photoshop. Dfine 2 is solely for noise reduction. It starts by analysing the image for noise and picking key areas to calculate a noise profile (you can choose these areas); it then offers noise reduction tools for luminance and chroma noise.

## Sharpener Pro 3

Sharpener Pro doesn't necessarily improve on the sharpening results you get from regular applications, but it approaches the process more scientifically by splitting sharpening into three steps. Capture sharpening is used to correct softness in the original image, creative sharpening is used to highlight key subjects in the scene while toning down the rest, and output sharpening is used to optimise visual sharpness for various print sizes and output devices.

AP

Visit [www.google.com/nikcollection](http://www.google.com/nikcollection)

**Analog Efex Pro 2**  
offers a great array of film type effects, textures, borders, and light leaks



## STEP-BY-STEP SILVER EFEX PRO 2



### 1 Start in Neutral

Like other Google Nik plug-ins, Silver Efex Pro displays preset effects on the left of the screen and manual adjustments on the right. Start with no adjustments applied, and then choose the Neutral preset. This black & white landscape might look unpromising at the moment, but Silver Efex Pro can bring out unexpected depth and detail.



### 2 Soft Contrast

Silver Efex Pro offers an entire sub-panel dedicated to contrast control. The Soft Contrast slider is particularly interesting. Positive values produce a heavy, moody appearance, while negative values, used here, brighten shadows and darken highlights. Combining this with a regular contrast produces quite a transformation.

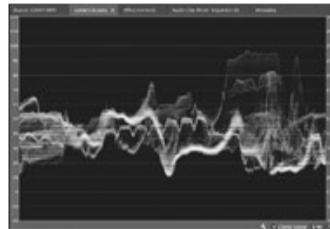


### 3 Vignette

Our last step is to add a strong Vignette from the Silver Efex Pro Finishing Adjustments panel. You can create these manually or choose a setting from the drop-down menu – this one is called Lens Falloff 3. You can change the size, strength and shape of the vignette and move it around using the Place Centre gadget.

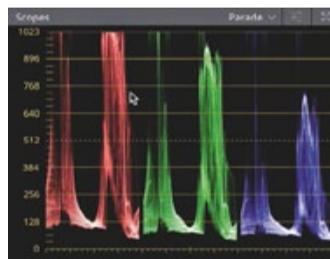
## Colour balancing with scopes

If your original in-camera footage isn't up to scratch, you can use a number of tools/scopes to rescue it.



### Waveform monitor

The waveform monitor shows the darkest and lightest points of your image, and is used to indicate the level of contrast in your footage. Basically, on a waveform monitor 0 (at the bottom) is black, and 100 (at the top) is white. So, for example, a waveform with the highest line above black can indicate a lack of contrast, while a value of 100 will indicate clipping in highlights that will need to be brought down in value.



### The RGB parade

The RGB parade comprises three histograms that display the levels of red, green and blue channels in any shot. If your shot is over-tinted with one colour you can use the RGB parade to pull it back and create a more balanced image. Getting your colour channels to mirror each other is key to creating a balanced shot (where the highlights are white and the shadows are black).

# The basics of colour

**Steve Fairclough**  
takes a look at the  
fundamentals of  
colour to consider  
when editing video

© JOHN LAYTON

**B**efore you dive head first into the world of colour in the post-production process, it's worth noting a few fundamental facts. In this feature I will explain the colour basics to assist you in your image workflow.

Colour-grading and colour-correction tools are often contained within the same software package, but actually they have two very different end goals – so what are they?

#### Colour correction to enhance creativity

Colour correction 'does exactly what it says on the tin'. Basically, it is the careful adjustment of white balance, contrast, exposure and so on to gain a neutral and balanced photograph. Colour correction can also be used to match video footage shot on different camera models so you have a unified place from which to begin the creative grading process.

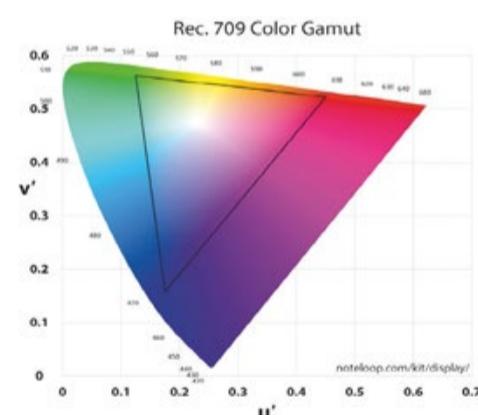
#### Colour grading

Rather than a correction process, colour grading refers to the creative choices that a colourist will make. For TV dramas and films this is often done with significant input from either the cinematographer or the director in terms of helping to show how colour can affect the actual storytelling process.

#### The 'need to know' terms

When delving into the colour world, it's important to know what the terms Log, raw and Rec.709 mean

**Log video** this is standard recorded video but with a flatter colour profile. Basically, the entire dynamic range of the camera is squeezed in to a limited space of the video format and it will require colour correction or a Look Up Table (LUT) in post-production to expand it back to its normal range. This process ensures you've captured as many of the details in the highlights



Rec.709 is the standard colour space in which most HD video is recorded

and the shadows as possible, as you can manipulate much more of the tonal detail in post. However, you are still limited in that the footage is shot in a standard video format, which leads us on to raw...

**Raw video** raw is the actual light data captured by the sensor in the camera before being converted into a video format. This means you will have much more control over the final image, such as finely tuning the white



Create footage that's full of punch by using colour correction and colour grading tools

balance and even controlling the ISO during post-production.

**Rec.709** log and raw often get graded and reduced to a much more common format, which is Rec.709. Rec.709 is the standard colour space in which most HD video is recorded and displayed – TVs, Blu-rays and most non-cinema cameras will operate in Rec.709.

#### Using colour scopes

Within your software is a range of scopes to help you better assess what changes to make in order to balance your footage. To find out more about using scopes in this way check out the sidebar, left.

#### Computers and monitors

You'll need a powerful computer to run your choice of grading software, such as DaVinci Resolve or Adobe Premiere Pro, but the need for an accurate monitor is often overlooked. You'll at least need an entry-level monitor that can cover the entire sRGB Rec.709 colour space. For higher level grading, you

will need a monitor that covers the DCI P3 colour space, which is used for cinema projection.

#### What does colour convey?

Colour grading can be one of the most difficult topics to get a good grasp of in film production, especially an understanding not to go overboard with colours and knowing what's needed to help the story. Perhaps a good way to start is to watch some of your favourite films again and work out why certain scenes are mainly blue, red or green and what the use of colours conveys to the viewer?

Colour can be graded in a subtle or vibrant way depending on the desired mood. Always remember that many of the tools and concepts involved are readily available to you either in-camera or integrated within your usual video-editing software packages.

**Keep up-to-date with all of the latest video news, interviews, tips and tuition videos by visiting [www.thvideomode.com](http://www.thvideomode.com).**

## VIDEO NEWS ROUND-UP



### Blackmagic shows fresh Resolve

Blackmagic Design has updated its editing software with the launch of DaVinci Resolve 14, which includes new features to make editing, colour correction and audio smoother in post-production. Amongst the upgrades are improvements to speed, and multiple user collaboration tools for simultaneous editing. To find out more visit [www.blackmagicdesign.com](http://www.blackmagicdesign.com).

### Firmware upgrade for GH5

Panasonic has announced a firmware upgrade for its GH5 camera, which is designed to expand the camera's 4:2:2 10-bit video-recording mode. In 4:2:2 10-bit 1920x1080 Full HD [MP4(LPCM)] / [MOV] mode the firmware offers 50p and 25p (PAL), 59.94p, 29.97p and 23.98p (NTSC) and 24p (Cinema) – all at 100Mbps with Long GOP image compression. Visit [www.panasonic.com](http://www.panasonic.com).



### Manfrotto reinvents the video head



Manfrotto has unveiled the Nitrotech N8 video head, which is said to combine the most successful features of Manfrotto's video heads with a groundbreaking, nitrogen-charged piston mechanism to 'guarantee continuous counterbalance'. The Nitrotech N8 can support a load of up to 8kg. For more information visit [www.manfrotto.co.uk](http://www.manfrotto.co.uk).

### SmallHD reveals 5-inch monitor

SmallHD has unveiled the 5-inch Focus HD video monitor with touchscreen operation. The monitor has an 800-nit display and is said to be sharp enough to achieve critical focus and bright enough for outdoor shoots. The unit mounts to the top of a camera and has a tilt mount/arm that helps to flip the screen through 180°. To discover more go to [www.smallhd.com](http://www.smallhd.com).



### Boost your filmmaking skills

The Video Mode has produced a series of easy-to-follow tuition videos – these include everything from top tips on exposure for video, ISO speeds, white balance, clip lengths and how to use your tripod creatively to advice from famous directors and commercial filmmakers. To discover more go to the 'Film School' section of [www.thvideomode.com](http://www.thvideomode.com) and just choose which videos to watch.

# Reader Portfolio

Spotlight on readers' excellent images and how they captured them

1



3



## Darren Rose, Marston Moretaine

 Darren first got into photography at college, before furthering his skills as part of a fine art degree. However, it's only in the past couple of years that he's returned to the medium. 'I love working out how to interpret the landscape around me, rather than to simply document it,' says Darren. 'This means that experimentation is often part of my workflow when out with the camera.' In the future he would love to exhibit more. For him the final print is an important part of his photography. [www.winterrosephotography.com](http://www.winterrosephotography.com)

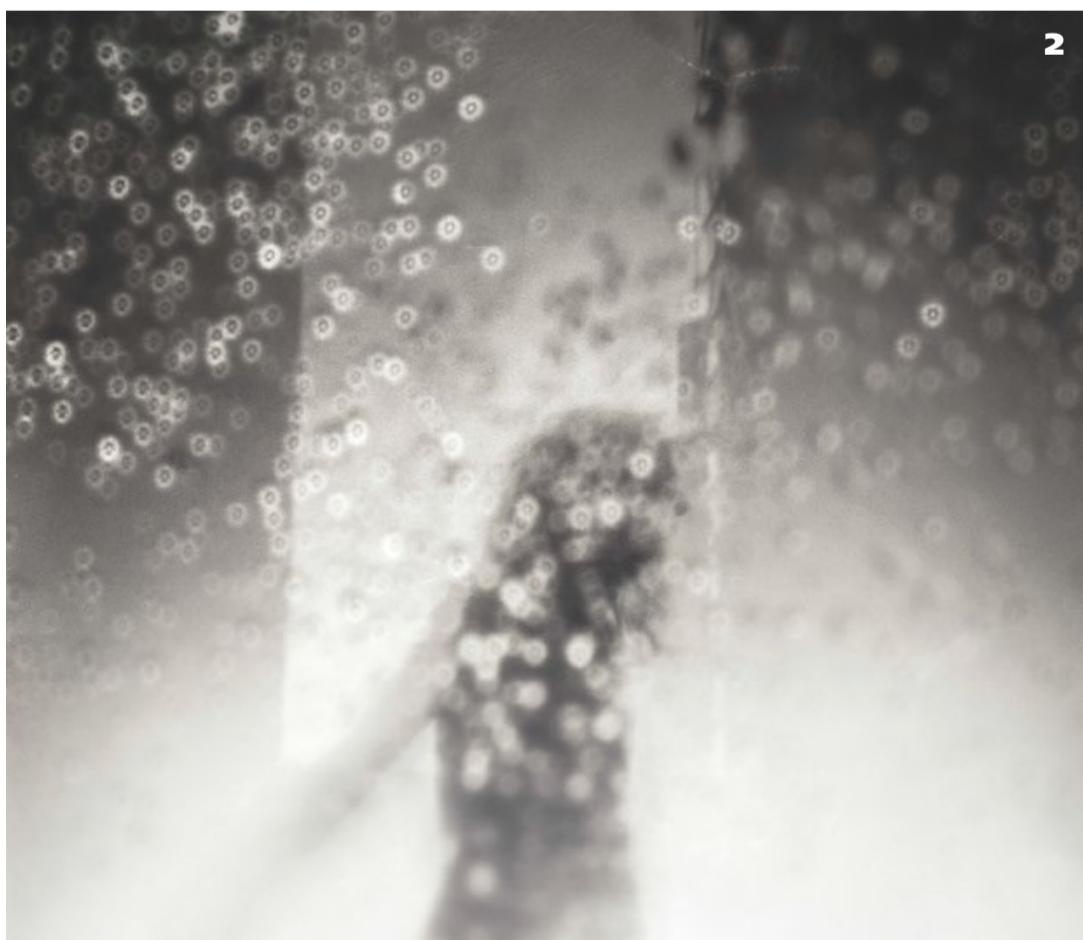
## Bricket Wood Common

1 Here, Darren was attracted to the natural frame of larger trees flanking the younger tree in the centre  
Leica M6, 90mm, 1/60sec at f/4, Fuji Acros 100 film

## Fog installation

2 This abstract image was taken in Fujiko Nakaya's fog installation at the Tate Modern. It's an image full of haunting atmosphere  
Diana F+, 75mm, 2secs at f/150, Fuji Acros 100 film

2



## Westminster

3 'Using the extremely wide and panoramic format of the 6x17 pinhole, I wanted to get the Thames and the Houses of Parliament in a single frame,' says Darren. 'There was only a tiny bit of movement in the clouds, which meant that I didn't lose too much detail over the time of the exposure.'  
Reality So Subtle 6x17 pinhole camera, 2mins 30secs at f/233, Fuji Acros 100 film

4





## Manfrotto The Reader Portfolio

winner chosen every week will receive a **Manfrotto PIXI EVO tripod** worth £44.95. Visit [www.manfrotto.co.uk](http://www.manfrotto.co.uk)

Lightweight and portable, the Manfrotto PIXI EVO boasts two different leg angles with a sliding selector enabling you to shoot ground-level images. It's adjustable, with two-section legs featuring five different steps that adapt the footprint to uneven surfaces. With a payload of 2.5kg, you can tilt the camera 90° to capture incredible images.



### Submit your images

Please see the 'Send us your pictures' section on page 3 for details or visit [www.amateurphotographer.co.uk/portfolio](http://www.amateurphotographer.co.uk/portfolio)



### Sherwood Forest

**4** This was taken in possibly some of the best conditions I've ever experienced,' says Darren. 'There had been a frost the night before and mist was lingering on the heathland. The strong early morning sunlight really was the icing on the cake.' Hasselblad 500CM, 50mm, shutter and aperture unrecorded, Fuji Velvia 50

5



### Derwent Dam

**5** 'There was barely a cloud in the sky above Derwent Dam at the Ladybower Reservoir [in Derbyshire] so I decided to use a long exposure in order to flatten the water completely and to minimise the overall composition,' says Darren Hasselblad 500CM, 80mm, 80secs at f/11, Fuji Acros 100, tripod. Lee Filters Little Stopper



Mezzo soprano Ida Ränzlöv,  
Royal College of Music, London  
Fujinon GF 63mm f/2.8 R WR  
1/250sec at f/2.8, ISO 250, Astia raw profile

# Living it large

Professional photographer **Edmond Terakopian** finds out how Fujifilm's first digital medium-format camera, the **GFX 50S**, performs in the field

In this age of modernisation, where smaller is better, does it make sense to go big? Fujifilm's proven range of APS-C cameras give great image quality in a small system, as do some very capable Micro Four Thirds cameras from Olympus and Panasonic with an even smaller sensor. However, when I showed some of the photographs I had made with the 51.4-million-pixel Fujifilm GFX 50S medium-format camera to a client, his eyes widened and he said: 'Wow! Look at all that detail!' If this overjoyed astonishment is anything to go by, then perhaps its 51.4 million pixels, served by a range of great lenses, are put to good use. I shall answer that question fully later as I examine the GFX 50S in more detail.

The GFX 50S is a first-generation camera, which often doesn't bode well. Visions of partly thought-out ergonomics, half-finished user interface and buggy system software come to mind, with the hope that the company might get things right in future versions. However, all these fears are completely unfounded.

It really is astonishing that the GFX 50S is Fujifilm's first digital medium-format camera. It is exceptionally well designed and extremely well made. It fits perfectly in the hand and gives the feeling of a mature product. I used the camera over two weeks, during which I shot 3,450 frames, and not once did the camera stutter. It just worked and made gloriously rich and detailed images.

Along with the GFX 50S, I had three lenses – a Fujinon GF 63mm f/2.8 R WR (equivalent to a 50mm), a GF 32-64mm f/4 R LM WR (equivalent to a 25-51mm) and a GF 120mm f/4 R LM OIS WR Macro (equivalent to a 95mm macro, with a close focus distance of 45cm). All these lenses have a proper

aperture ring, which includes a C position that allows you to adjust the aperture value with the command dial on the camera body. They are all weather and dust-resistant, and will work down to -10°C. And while I did use the camera in the rain, I didn't have an opportunity to test it in the cold, thankfully!

The 32-64mm f/4 and 120mm f/4 lenses, which have an LM designation, have linear motors for the autofocus, allowing for faster, silent AF operation. However, it was the 63mm that became my most used lens. It is the smallest and lightest of the trio, and has the fastest aperture. But while it's not majorly slower or any louder than the other two, I felt the lack of a linear motor. Let's hope Fujifilm brings out an LM version in the future.

The entire GF lens range is designed to



## At a glance

£6,199 body only

- 51.4MP medium-format sensor
- Fujifilm G mount
- ISO 100-12,800 (extended)
- 3.69-million-dot OLED EVF
- 3.2in, 2.36-million-dot LCD

cope with 100-million-pixel resolutions, so your investment in these lenses is future-proofed. I must commend Fujifilm's approach towards photographers because by designing for the future, it shows care for customers who invest in the system. Its excellent track record of supporting older cameras with feature-rich firmware upgrades shows a dedication to its users, so bravo Fujifilm.

For this test, I also had access to the VG-GFX1 vertical battery grip, which adds a vertical shutter release, control buttons and dials, as well as the ability to add a second battery to the camera (the first fits into the body directly from the side and the second into the grip). Naturally, this all adds bulk and weight, but for anyone who shoots a lot of portraits it is a must-have accessory.



Photographer Edmond Terakopian using the Fujifilm GFX 50S in a ballet studio

**► Talking of portraits, I also found the EVF-TL1 tilt adapter extremely helpful. It fits between the detachable EVF and body, allowing rotation and tilting of the eyepiece, which is phenomenally useful for shooting uprights from lower or higher angles. I consider this to be another must-have accessory.**

The battery, incidentally, is superb. On a single charge, I managed 548 pictures. This included some editing and processing from raw files in-camera, and the Wi-Fi was used several times to transfer images to my iPhone, leaving 7% capacity at the end of the day.

Even the neck strap and its fitting have been very well designed. It's a subtle strap that grips but doesn't slide, and nor does it scream with a loud and brash logo to gain attention. It's a minor point, but it goes to show the level of thought put into this new system.

Although not available for my test, there are also two newly announced lenses in the shape of the Fujinon GF 110mm f/2 R LM WR (equivalent to an 87mm) and GF 23mm f/4 R LM WR (equivalent to an 18mm). However, I did manage to get a look at a pre-production 110mm lens at a trade show and take some quick test shots. It's smaller than one would assume for an f/2 lens and its rendering wide open is absolutely beautiful. This lens is going to help photographers make some truly wonderful portraits. At launch, the GFX system is very accomplished, served by a range of extremely capable lenses and accessories, so I doubt many photographers would be left wanting for much more.

## Bigger and bigger

A few things need to be mentioned early on when you're using the Fujifilm GFX 50S. For a start, you're going to need a bigger bag, bigger memory cards and bigger hard drives. Fortunately, I had a SanDisk Extreme 256GB SD card that I'd originally bought to store music for my car stereo, so this quickly got repurposed and put to better use in the

GFX 50S. The twin SD card slots on the camera come in handy, too, as often I'd load a couple of 32GB cards and use them in succession. Over the two weeks I shot 534GB of raw and JPEG pictures during 15 shoots. This stretched the hard-drive space not just on the primary storage, but also back-up and off-site back-up, followed by cloud storage. Hard drives are inexpensive these days, so it's not a major problem, but you do need to be prepared for those monster files!

The GFX 50S and lenses are naturally bigger than 35mm equipment and the smaller mirrorless cameras on the market. However, the camera is not that much bigger or heavier than a pro-level DSLR with f/2.8 pro zooms. For the duration of my test I used my Think Tank Photo Shape Shifter 15 v2.0 backpack, which was ideal for carrying the camera, three lenses and accessories.

## The experience

During my two weeks of shooting everything from street photography and reportage to portraits, the camera just worked. Although I've used the Fujifilm X100 and X100S extensively, I'm not used to the Fujifilm range of cameras. However, I found the GFX 50S so logically designed that I never had to open the camera manual. The button layout is superb and the menu system very easy to grasp. I tweaked a couple of function buttons, set up the 'my menu' settings with my most used functions and I was good to go. The only disappointment here was not being able to place the 'format memory card' function on this page, although I hope this can be changed with a future firmware update.

For anyone who may fear this camera because it's a medium-format model and more of a professional tool, my advice is just get your hands on one and use it. It's extremely user friendly. I found the AF much more responsive than I imagined it would be, although the C-AF was very slow and



**A street artist sprays some graffiti on a slope at the South Bank skate park**  
**Fujinon GF 32-64mm f/4 R LM WR**  
**1/500sec at f/5, ISO 200**  
**Velvia raw profile**



## Why medium format?

THE TRADITIONAL haunt for medium-format work is the studio, or slower, more considered photography. Although during my career I've done a lot of studio photography for corporate and editorial clients, most of my work is now on location and generally faster moving. I decided, straight from the start, to use the GFX 50S as I use all my cameras, so I took it on reportage assignments, location portrait shoots and street photography, which is a passion of mine. It even accompanied me to my nephew's sixth birthday party!

I first got my hands on the GFX 50S on the Fujifilm stand at the Photography Show at the NEC in Birmingham earlier this year. I was extremely impressed by how responsive the AF was, so this reinforced my desire to give the camera a closer and more thorough look, and also to break the traditional medium-format conventions and just use it. The obvious thing with this camera is the wonderfully large sensor – 51.4 million pixels of beautifully rendered and lush detail. Of course, if the only requirement is a megapixel count, the 42.4-million-pixel Sony Alpha 7R II, or 50.6-million-pixel Canon EOS 5DS or 5DS R models are available. However, for me it's not just the megapixel count but the quality of these pixels, the detail, the look, the lack of digital noise and finally, the look of medium format. It's not just a shallower depth of field, but a more three-dimensional feel to the images. Using a medium-format camera also makes you a more considered photographer, so you think more and shoot more purposefully.



Colleagues share a joke at their wine stall behind the Royal Festival Hall  
Fujinon XF 63mm f/2.8 R WR, 1/125sec at f/2.8, ISO 1600, Astia raw profile



Westminster Cathedral  
Choir School pupils  
rehearsing in the  
cathedral  
Fujinon GF 120mm f/4 Macro  
1/200sec at f/4, ISO 2000  
Astia raw profile

sometimes uncertain. I stopped trying to use this and stuck with S-AF, which worked accurately and was fast enough for most things. While it would be very nice to have fast continuous focus, the reality is with this type of camera one is never really going to be photographing sports or fast-moving subjects. There are better cameras on the market with more suitable optics for such needs.

In recent years I have found that I quite like using face detection with eye detection when doing solo portraits. I did find the GFX 50S's system a bit hit-and-miss, though. It seemed to trip up and become uncertain when I was shooting an opera singer with her face tilted to one side. Hopefully, the algorithm can be tweaked for the future.

The incorporation of a joystick on the back of the camera makes choosing an AF point extremely easy and quick. The size of the focus point can also be easily changed, making precise focusing on small areas very straightforward. It really is astonishing that there are still some manufacturers that don't realise how essential a joystick is! I'm a 'back-button focuser', so was overjoyed that the custom button placements on the rear fell perfectly to my right thumb, both on the camera and on the vertical grip.

Although I used the EVF most of the time, I did use the rear LCD on the GFX 50S much more than I would normally. This



## 'I found that the Astia and Acros profiles quickly became my starting points when processing images in Lightroom'

► was useful for shooting from lower angles, but also for more subtle work on the street – often photographing people from a couple of metres away. The quality of both displays was spot on, although the default brightness level is a little high compared to actual exposure so pictures turn out a little darker than one sees on the EVF during shooting. Make sure you tweak this a little and also pay more attention to the exposure meter until you get a feel for the display's rendering.

One small annoyance that occurred on a few occasions was the rear LCD opening when it became snagged on my clothes. A lock might be a good idea for future cameras, although there is a lock for tilting the LCD to upright mode. I also found that when shooting with the camera at around chest or waist level, while using the rear LCD, I did sometimes yearn for a front-mounted shutter release on the body, similar to my film Hasselblad and Rolleiflex cameras. I guess this could quite easily be a new type of grip option, although in reality it wasn't a big deal as the regular release works just fine when shooting in this way.

Of course, a huge part of the experience of this level of camera is looking at the photographs on-screen. When I downloaded the images into Adobe Lightroom on my Mac and viewed the photographs on my calibrated 27in Eizo monitor, I couldn't stop smiling. The quality of the files is just phenomenal. Dynamic range (with detail in the extreme highlights and shadows), image rendering (thanks to superb lenses, sensor and the camera's processing engine), low-light performance, and colour accuracy and subtlety, are all smile-inducing and just encourage you to pick up the camera to create more and more images.

I was happy shooting up to ISO 6400 or so. I was mindful of my shutter speeds and tried to keep them at around 1/125sec for handheld shots, as the high-resolution sensor will render movement more prominently. On one portrait

shoot I used a monopod to help steady the camera in the lower light settings. If this huge sensor size can be stabilised in future models, then in-camera stabilisation would be a killer feature for certain.

I loved a lot of the built-in raw profiles on the GFX 50S named after Fujifilm's films, such as Provia, Velvia, Astia, Classic Chrome, ProNeg Hi, ProNeg Std, Acros, Monochrome and Sepia. These are also available as film simulations for JPEGs, and I'd love to see a Neopan simulation in the future! I'm a devoted practitioner of shooting in raw and getting the most out of an image, so having these profiles built in to the raw files was great.

I found that the Astia and Acros profiles quickly became my starting points when processing images in Lightroom and they speeded up my workflow. Normally I finish my images using either Nik Software's Silver Efex Pro or Alien Skin's Exposure X2 plug-ins, but with Fujifilm's perfect raw profiles I didn't need to, so all processing was done in Lightroom.

As mentioned, the GFX 50S has built-in Wi-Fi. I use this a lot to transfer images to my iPhone or iPad so I can send them quickly to a client, and even more so for sharing across social media, especially on my @terakopian Instagram account. The availability of in-camera raw processing, with a very wide range of parameters, means that a practically publication-ready file can be processed, saved as a JPEG and then transferred. You can browse images on the camera and choose what to send to a smartphone or tablet, or browse all images via the smartphone or tablet using the Fujifilm Camera Remote app and choose what to download. I used both methods, but because I liked processing images in-camera first, I found I was sending from the camera more often.

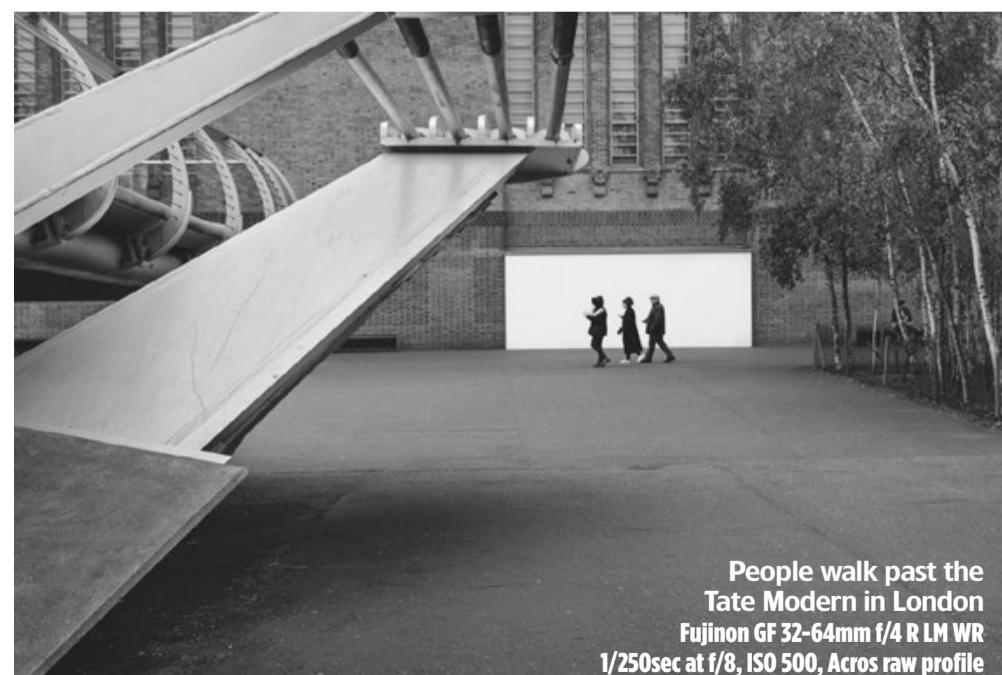
Some work is needed on the GFX 50S's app and Wi-Fi, though. The app should have an option to show just star ratings (as made on the



**Mezzo soprano Ida Ränzlöv,  
Britten Theatre, Royal College of Music**  
Fujinon GF 32-64mm f/4 R LM WR  
1/80sec at f/4, ISO 1600, Astia raw profile



**A portrait of Elvis**  
Fujinon GF 63mm f/2.8,  
1/250sec at f/2.8,  
ISO 3200  
Acros raw profile



**People walk past the  
Tate Modern in London**  
Fujinon GF 32-64mm f/4 R LM WR  
1/250sec at f/8, ISO 500, Acros raw profile



camera) and also an option to automatically allow these to be imported upon connection. It would also be extremely helpful if images kept their star rating once imported in to Lightroom. This would speed up workflow remarkably.

I wanted to test out the video function and see the quality a large sensor could produce, even though it was disappointing to see there was no 4K ability. However, I have to admit that I enjoyed making pictures so much that I ran out of time and didn't shoot any video at all!

If you do decide to buy the Fujifilm GFX 50S, or hire one to use, do download the manual and have a read through it. As I mentioned earlier, this camera is so user friendly you can just pick it up and start using it immediately, but there is such a wealth of options and functions that aren't immediately obvious that it's definitely worthwhile spending some time to familiarise yourself with them.

### Conclusions

While I have highlighted some niggly things about the Fujifilm GFX 50S, they are mostly software based. Knowing Fujifilm's excellence in firmware updates and pushing their cameras' functionality in leaps and bounds, I have no doubt these small issues will be rectified. The main issue, though, is that these niggles don't impact on using the camera and making stunning images.

To go back to answer my question from the beginning of this article, the day after the GFX 50S had gone back to Fujifilm I downloaded some photographs made on my Olympus OM-D E-M1 into Adobe Lightroom. To say I was underwhelmed by the image quality, detail rendered and the level of magnification of the images when viewed at 100% would be an understatement. I initially thought I wasn't viewing them at 1:1!

Naturally, this is in no way a fair comparison, as they are totally different types of camera systems and at completely different price points. However, once you see the quality achievable on the GFX 50S, you will be spoilt for ever. It did illustrate to me very clearly that when I need that extra detail and excellence in rendering, then 'going big' makes absolute sense. I already have a project in mind for which I foresee renting a GFX 50S.

While this camera is extremely well priced for a medium-format digital model, it is still quite expensive at almost £6,000 body only. I do think that a lot of camera hire companies will see plenty of new business from photographers either renting these for specific assignments or purely from curiosity. After all, a huge portion of the joy of photography is the joy of discovery. Give the Fujifilm GFX 50S a go – you won't be disappointed.

# Flashgun softboxes

Whether you use on or off-camera flash, there's a wide range of portable and affordable modifiers. **James Abbott** looks at four of the best options for bending flash to your will



## Data file

	Price	Size	Diffuser	Shape	Interior colour	Weight
Honl Photo traveller8 softbox	£54	20.3cm diameter	Single	Circular	White	115g
Interfit S-type Speedlight bracket and 60cm softbox	£35	60x60cm	Double	Square	Silver	1.2kg
Lastolite by Manfrotto Ezybox Pro Square Medium Softbox	£95 (+ £38 for speedring/bracket)	60x60cm	Double	Square	Silver	1.07kg
Rogue FlashBender 2 XL Pro	£85	33x41cm (and other sizes depending on configuration)	Single	Rectangular	White	391g

## Honl Photo traveller8 Softbox

● £54 ● [www.honlphoto.com](http://www.honlphoto.com)

THE main idea behind flashgun modifiers is that they are lightweight and compact, and the Honl Photo traveller8 Softbox ticks both boxes. As the name suggests, its diameter when assembled is 8in (20.3cm). This is small for a softbox, but on the flipside it weighs just 115g and folds down flat for transportation. This makes it possible to use the traveller8 for both on and off-camera flash.

Assembly is quick and easy. You simply need to press the traveller8 at the top and bottom to make it circular, and the front diffuser attaches with Velcro. The softbox then attaches to your flashgun with Velcro tabs that hook to a Velcro band (included) that straps around the flash head. This design means the softbox will fit most flashguns securely.

The main downside to this product is that it's small, so you won't get quite the same level of

light spread and diffusion as you would with a larger softbox. Plus, there's only one diffuser panel, where a second would have been better for softening light. At £54, it is expensive, but it's well made and incredibly portable. What's more, the circular shape creates pleasing non-square catchlights in the eyes when shooting portraits.

**Amateur  
Photographer**  
Testbench  
★★★



## Lastolite by Manfrotto Ezybox Pro Square Medium Softbox

● £95 ● [www.manfrotto.co.uk](http://www.manfrotto.co.uk)

FOR photographers working with flashguns on location and studio flash indoors, the Lastolite by Manfrotto Ezybox Pro Square Medium Softbox works seamlessly across these two types of flash lighting. Available in small, medium and large, the medium option reviewed here is a premium competitor of the Interfit softbox.

The Ezybox is, like the other options, quick and easy to assemble. Two rigid sides are supported by two poles that make the softbox self-support. Inner and outer diffusers then attach via Velcro, and the high-quality material is said to block two stops of light. This is a lot for a flashgun, but the diffusion is excellent and no problem for more powerful flashes. A speedring mount is then placed at the back to allow a speedring or speedlight bracket to be attached.

The caveat here is that you have to buy an additional attachment for your flashgun or studio flash. The advantage, though, is that you can use the softbox with most

popular lighting brands – a unique feature in this test. A

Speedlight bracket or speedring for Bowens, Elinchrom, Profoto and Balcar costs £38 each, which is expensive considering the price of the actual softbox. However, excellent light diffusion and the ability to use the softbox with different lights is a huge bonus and it's fantastic with more powerful studio and portable heads.



## Interfit S-type Speedlight bracket and 60cm softbox

● £35 ● [www.interfitphotographic.com](http://www.interfitphotographic.com)

IF YOU'RE serious about off-camera flash, and want the best lighting possible, you really need to consider a larger, more traditional-style softbox. The Interfit S-type Speedlight bracket and 60cm softbox is medium sized and comes with a flash bracket that allows you to attach it to a light stand, and tilt it up or down. It also allows you to attach Bowens S-type modifiers for increased versatility. The kit comes



in a small carry case that belies the size of the pop-up softbox when assembled. At just 33x25x11cm, it's fairly compact and packs away neatly. The softbox itself is quick and easy to assemble, taking just a couple of minutes at most. And with an inner and main diffuser, light is effectively diffused before reaching the subject. Packing down the kit is even quicker, making this a compelling option for the photographer on the go.

Overall, this softbox is nothing short of fantastic. The Bowens S-type bracket is strong and lets you attach your flashgun confidently without the flash taking any of the weight of the softbox. The ability to attach any Bowens S-type modifiers is great, although if your studio kit uses an Elinchrom or other mount you won't benefit, but it's certainly not a deal breaker.

**Amateur  
Photographer**  
Testbench  
**GOLD**  
★★★★★

## Rogue FlashBender 2 XL Pro

● £85 ● [rogueflash.com](http://rogueflash.com)

IF YOU'RE looking for an all-round solution that can modify light in a number of ways, the Rogue FlashBender 2 XL Pro might be perfect for you. And not only can it be used as a white reflector panel, softbox and stripbox with grid, but also it packs down into carry case that's shallow enough to be squeezed into the laptop section of a camera bag.

The FlashBender is made up of one main reflector panel that secures to a flashgun. The other attachments can then be secured to the front with Velcro, so it's incredibly simple to use. And although the Rogue only offers a single diffuser panel, the flashgun is inserted into the bottom of the modifier while the light is bounced out of

the front. This creates a second level of diffusion despite the single panel, which is a simple yet effective way of softening light.

The downside of this is that the flash head has to be aiming upwards with the Rogue attached by its secure strap. This is fine indoors or in calm outdoor conditions, but a little wind can force the head to tip forwards. This is a small issue that's certainly more than outweighed by what you get in terms of modifier options for the price.



**Amateur  
Photographer**  
Testbench  
**GOLD**  
★★★★★

This rare shot of a kingfisher was taken by Gustav Kiburg on the Sony RX10 III  
1/125sec at f/4.5,  
ISO 800

# Win!

## A Sony Cyber-shot DSC-RX10 III

### in our wildlife/nature photo shootout

© GUSTAV KIBURG

Unique competition gives you the chance to try this exciting camera and possibly get to keep it

Calling all wildlife photographers – how do you fancy winning the amazing Sony Cyber-shot RX10 Mark III?

The RX10 III is arguably the world's finest bridge camera, and is the perfect solution for nature and wildlife photographers looking for an all-in-one solution. Not only does the fast 25x zoom lens allow you to zoom right in to your subject, but the super-fast AF and Optical SteadyShot image stabilisation also ensures a sharp image, free from camera shake. Meanwhile, the silent shutter means you won't disturb your subjects when you press it. If shooting close-up is more your thing the macro mode lets you shoot from as close as 3cm from the lens. It also shoots video in glorious 4K, or in 960fps (40x) high speed mode for dramatic slow motion.



#### The RX10 III at a glance

- Large-diameter ZEISS® Vario-Sonnar T\* 24-600mm f/2.4-4.1 lens
- 1.0-type stacked CMOS sensor and BIONZ XTM image processor
- 4K movie recording and 960fps (40x) high-speed shooting
- Silent shooting
- 3cm macro mode

#### HOW TO ENTER

All you need to do at this stage is to upload your best picture with a nature/wildlife theme (taken on any camera). We'll then pick our five favourites, and the photographers who took them will each then receive a shiny new Sony RX10 III for two weeks during August to take some more nature and wildlife pictures. The photographer who takes the best image during this shoot-out gets to keep the camera!

To enter, simply visit our website at the address at the bottom of the page ([www.amateurphotographer.co.uk/sonyshootout](http://www.amateurphotographer.co.uk/sonyshootout)), where further details about uploading your images can be found. We will then draw up a shortlist of five photographers from all the entries we receive, and contact you if you are part of this shortlist – so we will need your full contact details including daytime telephone number. Please supply only one JPEG image, and keep it to under 10Mb in size.

**The closing date for entries is 30 June 2017**

Competition open to UK residents only

To enter visit [amateurphotographer.co.uk/sonyshootout](http://www.amateurphotographer.co.uk/sonyshootout)



The 'sweet spot' on this lens is located between f/5.6 and f/8  
Canon EOS 5D Mark IV, 24mm, 1/160sec  
at f/8, ISO 400



# Canon EF 24-105mm f/4L IS II USM

It's suitable for a wide variety of applications, but how much better is the Mark II version than the original? **Michael Topham** compares the two

When Canon announced the launch of the EOS 5D Mark IV last year, it arrived on the scene at the same time as two new full-frame optics – the EF 16-35mm f/2.8L III USM and the revamped EF 24-105mm f/4L IS II USM. Both these lenses play a key role in Canon's EF full-frame line-up, but it's the EF 24-105mm f/4L IS II USM that's more versatile and is likely to be the bigger seller based on the fact that the lens it replaces has been one of Canon's best selling full-frame optics for the past ten years.

The original EF 24-105mm f/4L USM has been a popular lens with Canon users for many

different reasons. For those making the jump from an APS-C DSLR to full frame, it's seen as the best multipurpose lens you can buy, plus there's often an incentive to buy it with a new DSLR as part of a kit and save a considerable amount of money in the process. The EF 24-105mm f/4L IS II USM promises to go one better than the original, so I wanted to find out if this newer variant really justifies an upgrade from my old lens or not.

## Features

favoured by those wanting to carry a single lens on location, the EF 24-105mm f/4L IS II



USM falls into the standard zoom camp of premium lenses and differs from the original EF 24-105mm f/4L IS USM in quite a few ways. For starters, it features a revised optical design compared to its predecessor, which Canon claims improves resolution and edge-to-edge sharpness throughout the



Barrel distortion and vignetting are both clearly evident in this image taken at Bristol docks  
Canon EOS 5D Mark IV, 24mm, 1/250sec at f/4, ISO 200

frame. Whereas the original lens featured an optical design of 18 elements in 13 groups with eight aperture blades, this newer lens incorporates 17 elements in 12 groups with ten aperture blades. Modifying the optical construction has seen the maximum magnification increase slightly from 0.23x (at 105mm) to 0.24x (at 105mm), but there's no change to the minimum focusing distance, which remains at 0.45m.

Elsewhere, the lens features Canon's latest optical image stabiliser that counteracts blur effects that are associated with camera shake. The good news is that it's now effective to 4 stops rather than 2.5, making it possible to achieve sharper handheld shots at speeds as slow as 1/15sec at the long end of the zoom.

In typical Canon fashion the lens uses an ultrasonic motor to ensure that autofocus is fast and quiet, with the full-time manual-focusing ring allowing users to make focusing adjustments on the fly without having to switch to manual mode first. Canon has also ensured that the lens provides smoother aperture changes during movie capture by employing an electronic aperture diaphragm system (EDM).

The lens includes weather sealing that will prevent users having to stow it away in adverse weather conditions and at the rear is a rubber ring that compresses and seals it against the camera's metal lens mount. Towards the front you'll notice the famous red ring that's synonymous with Canon's premium L-series optics, and it accepts filters and adapter rings via a 77mm thread just like its predecessor.

### Build and handling

As well as weighing 125g more than the lens it sets out to replace, it's also physically larger. The difference in length is most obvious when it's viewed side-by-side with the original, and by being that little bit longer (11mm, to be

precise) it has allowed Canon to make the zoom and focus rings that little bit larger. The zoom ring operates across the focal range with a consistently smooth motion and it never feels like you're required to put more effort into rotating it at one point than another. When it's used at the telephoto end, the front of the lens extends by 40mm, but continues to feel well balanced with full-frame DSLRs like the EOS 5D Mark IV with which we tested it. There's nothing to prevent it being coupled to a Canon APS-C DSLR (equivalent to a 38-168mm lens), but on smaller bodies like the EOS 77D the new lens does make the camera feel quite nose heavy and not as well balanced.

During the revamping process, Canon has updated the external design of the lens to match the look of other current L-series zooms, such as the EF 24-70mm f/2.8L II USM. When it's compared with its predecessor, you'll notice a few small differences such as the

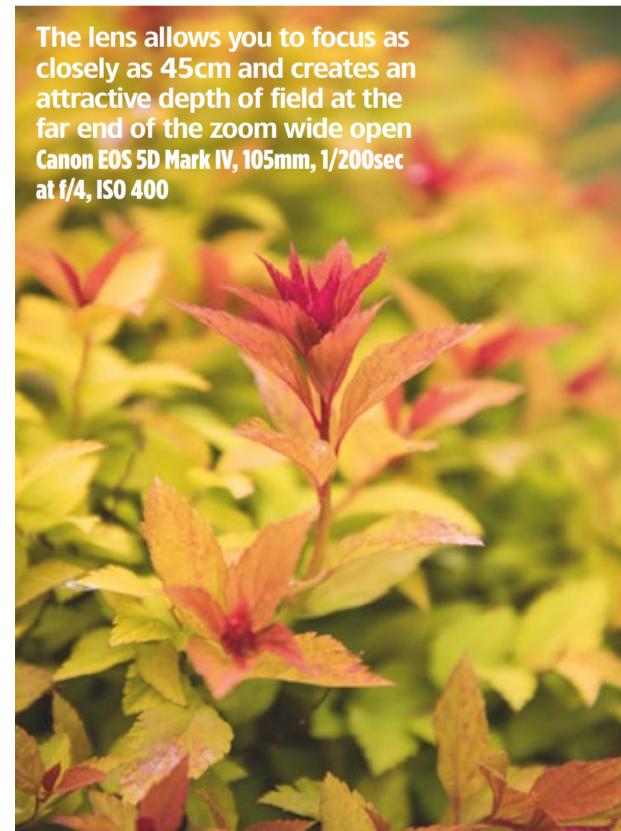
focal length markings being closer to the body of the lens, bolder white lettering and the removal of the name of the lens at the front of the barrel, which is now printed beside the front element. The position of the AF/MF and stabiliser switches remains much the same at the side, but whereas the stabiliser switch was slightly recessed on the older version, it's not on this newer model. The manual-focus ring provides a fluid and pleasing feel in use, and overall the lens meets the flawless build quality one would expect from a lens that breaks the four-figure price barrier. You even get a lock switch to prevent the zoom from extending beyond 24mm, but I rarely used it as there was no signs of the zoom wanting to creep.

### Autofocus

Testing this new lens alongside the old model revealed that the new version is fractionally quieter when it goes about its business of focusing, although it's not silent to the point that it rules out operational focusing noises being picked up by the inbuilt microphone during movie recording. As for AF speed, I didn't experience an obvious improvement between new and old, with each lens seemingly focusing as fast as the other between near and far subjects. What is an improvement, though, is the way the aperture can now be adjusted silently during movie recording, ruling out the pesky clicking sounds you used to hear as the aperture blades moved.

### Image quality

Intrigued to find out how the lens's new optical formula affects image quality, I took a number of comparison shots alongside my six-year-old but still immaculate version of the original lens before inspecting my results. Studying the corners of images taken throughout the zoom range at different apertures revealed that this



The lens allows you to focus as closely as 45cm and creates an attractive depth of field at the far end of the zoom wide open  
Canon EOS 5D Mark IV, 105mm, 1/200sec at f/4, ISO 400

**Canon EF 24-105mm f/4L IS II USM**

Crop of image taken at 105mm, 1/160sec at f/5.6, ISO 100



The cropped views above show the new lens (left) to be fractionally sharper than the original (right)

lens is a little sharper than its predecessor towards the edge, and when I started to push to the far end of the zoom I noticed that it resolves slightly finer detail in the centre with less chromatic aberration. Further examination confirmed that this new lens controls barrel distortion at the wide end slightly better, and although vignetting is present when it's used at its widest aperture, it's not quite as severe as it is on the older lens.

After studying real-world examples I looked at our lab results, which showed that the lens produces its best results between the centre and edge of the frame at the middle of the zoom range. Stopping the lens down to f/5.6 or f/8 sees the centre sharpness improve at all focal lengths, and though corner sharpness never meets the same level of sharpness that's resolved in the centre, our results show that the lens is sharper towards the corner of the frame at the longer end of the zoom beyond f/8. Centre sharpness figures at f/11 are close to what were recorded wide open at f/4, so for the sharpest results at any point in the zoom range you'll want to use the lens between f/5.6 and f/8. You'll also notice that the impact of diffraction does soften overall sharpness when the lens is used at or beyond f/16.

Our tests also show that the corners appear approximately 1EV darker than the centre when the lens is used at f/4 at both the wide end and long end of the zoom. By the time you close down to f/5.6 it's barely evident. Fringing is better controlled, but green and purple fringes of colour are still traceable and were corrected for by enabling the remove chromatic aberration option in Lightroom CC. With regard to distortion, the lens does exhibit barrel distortion at the wide end and pincushion distortion at telephoto lengths, but again this can be easily corrected for in post by applying the relevant lens profile.

**Canon EF 24-105mm f/4L IS USM**

Crop of image taken at 105mm, 1/160sec at f/5.6, ISO 100



## Our verdict

THE ten-year old EF 24-105mm f/4L IS USM has been due a revamp for a while, and with the EF 24-105mm f/4 L IS II USM Canon has engineered a better lens. Image quality has improved, but those looking at it as an upgrade from the older lens shouldn't expect a big difference in sharpness.

Needless to say, for the £700 I'd have to spend to upgrade to this lens from trading in my mint example of its predecessor, I've decided to hold on to my original.

Simply put, the EF 24-105mm f/4 L IS II USM is the best full-frame standard zoom Canon makes covering this focal range, but if you feel you can make do without the reach, want to benefit from a faster f/2.8 aperture and can stretch to the EF 24-70mm f/2.8L II USM (£1,734), you'll get a sharper lens in return that's better tailored to your needs.



### Data file

**Price** £1,065  
**Filter diameter** 77mm  
**Lens elements** 17  
**Groups** 12  
**Aperture** f/4-f/22  
**Minimum focus** 0.45m  
**Dimensions** 83.5x118mm  
**Weight** 795g  
**Lens mount** Canon EF  
**Included accessories** Lens cap, lens hood, lens pouch

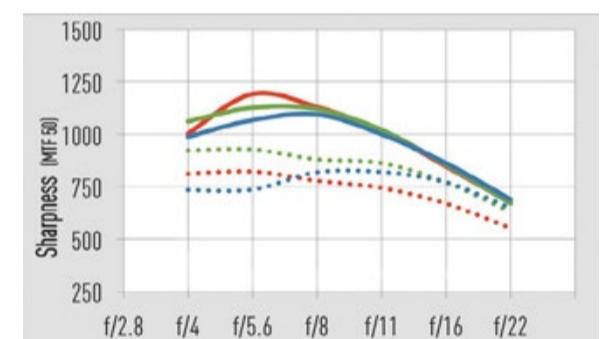
**Amateur  
Photographer  
Testbench  
Recommended**



## Canon EF 24-105mm f/4L IS II USM

### Resolution

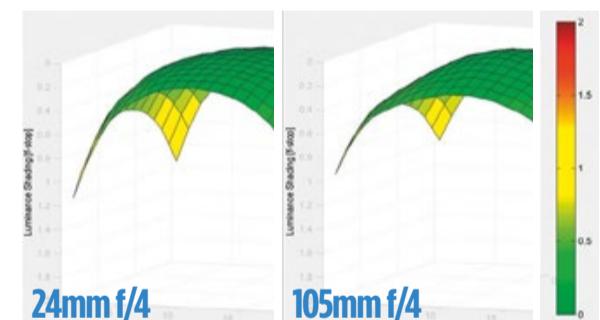
Centre and edge sharpness improves by closing the lens down to around f/5.6 and f/8, which is to be considered as the 'sweet spot' of the aperture range. The lens resolves a similar level of sharpness in the corners at either end of the zoom when it's used at f/8. The impact of diffraction does soften overall sharpness, and this is most obvious when the lens is stopped down to f/16 or f/22.



24mm centre — 24mm corner .....  
 50mm centre — 50mm corner .....  
 105mm centre — 105mm corner .....

### Shading

Shoot at the maximum aperture of f/4 and you will notice that the corners of images appear darker than the centre by approximately 1EV. Corner shading does improve by stopping the lens down, and by the time you reach f/5.6 you'll be hard pushed to notice vignetting in real-world images.

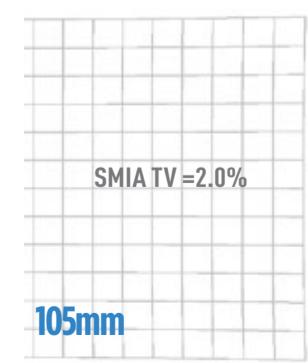
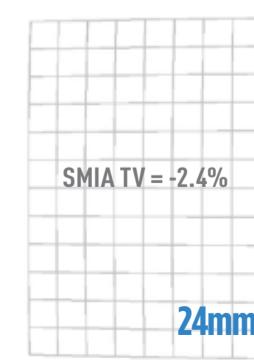


24mm f/4

105mm f/4

### Curvilinear distortion

The lens exhibits barrel distortion at the wide end. The amount of barrel distortion subsides as you extend the zoom, but starts to turn to pincushion distortion beyond 70mm. Although distortion may not be immediately obvious, it's clear to see when lens profile corrections are switched on and off.





# Win!

## A Rotolight AEOS kit

*Amateur Photographer* has teamed up with **Rotolight** to offer you a chance to win an **AEOS kit**

DESIGNED for portrait and location photographers and videographers on the move, AEOS is a bi-colour, location LED light with a unique 'ultra-thin' design concept. Weighing in at less than 1.5kg and just 2cm thick, AEOS is one of the most portable lights on the market. It delivers a powerful light output of 5,750 lux at three feet, but is also one of the most energy efficient LEDs on the market, able to run for three hours at 100% power on a single 95W battery – more than twice as long as the industry standard. Unlike most LED lights with limited tilt angles, the AEOS uses a pro-level ball head as standard

### Our bundle includes:

- Rotolight AEOS light
- Pro Aluminium Ball Head
- Power adapter
- 95 Wh V-Mount Lith-Ion Battery
- Filter Holder
- Filter Pack inc 216 Full Diffuser; 250 Medium, Half White Diffuser; 'Cosmetic Peach' Diffuser; 1/8th Minus Green (Magenta)
- AEOS soft case

**The closing date for entries is 5 August 2017**

Competition open to UK residents only



© JASON LAMER PHOTOGRAPHY

For your chance to win visit [amateurphotographer.co.uk/rotolight](http://amateurphotographer.co.uk/rotolight)

# ZenTilt camera support

**Geoff Harris** ignores the hype to see if this Z-type bracket offers anything new

● \$56 (around £43) ● [zentilt.co](http://zentilt.co)

IF YOU'VE spent any time on Facebook recently you may have seen the ads for the ZenTilt camera head, an aggressively marketed Z-type bracket which, it is claimed, enables you to move your tripod-mounted camera from landscape to portrait format and other orientations with the minimum of fuss.

The unit is about the same size as a table coaster and is made from tough but lightweight (382g) aluminium. As for the weight-bearing capabilities, the makers claim it can support 3kg, which seems a bit on the optimistic side, but more on this later.

The ZenTilt screws onto a standard tripod via its bottom plate and is then connected to the tripod bush on the bottom of your camera via a knurled wheel. The ZenTilt's arms can then be pulled out and adjusted as necessary. At this stage, there isn't enough support for your camera at different orientations, so you also need to tighten some Allen nuts to ensure maximum stability.

Basically, the ZenTilt works, and the unit seems well engineered, but there are some caveats. We noticed straight away that the device is inherently more stable when it's straight up or the camera is in portrait position, for instance. In a nice warm studio, you don't mind turning knurled wheels or faffing around with Allen keys, but it could be a different story when you have seconds to get a shot, or have cold fingers – and if you've forgotten the Allen key, it's a real problem.

That 3kg weight limit seems on the optimistic side, too, and even with the Allen nuts fully tightened, a Canon 5D Mark III with 24-105mm lens felt at the very limit of what we could get away with. For SLRs with smaller prime lenses, however, or mirrorless cameras and lenses, the ZenTilt could be a neat solution, particularly for travel and landscape photographers.

## Our verdict

This is a reasonably useful tripod accessory for lighter camera set-ups, so long as you don't mind fiddling around with Allen nuts. The distributor's site trumpets a massive price cut from a frankly exorbitant \$149.99 to a much more sensible \$56. This is still just over £40, however – not so great when you consider that there is a wide choice of similar looking Z-type brackets on eBay and Amazon at rather lower prices. Our advice is to shop around.

## At a glance

- Z-type tripod bracket for adjusting shooting angles quickly
- Works with most tripods and camera makers
- Produced from lightweight but sturdy aluminium



# SAVE UP TO 35%

when you subscribe today!



From Only  
£24.99\*

## PLUS

ENJOY THESE FANTASTIC  
SUBSCRIPTION BENEFITS:

- Pay only £1.96 per issue
- Enjoy the luxury of home delivery
- Get exclusive rewards for subscribers every month. Join Rewards at [amateurphotographer.co.uk/rewards](http://amateurphotographer.co.uk/rewards)



0330 333 1113

Quote code: 11YU

Monday - Saturday from 8am - 6pm (UK time)



Subscribe online at  
[amateurphotographersubs.co.uk/11YU](http://amateurphotographersubs.co.uk/11YU)



Complete  
the coupon  
below

THE DIRECT DEBIT GUARANTEE: This Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debits. If there are any changes to the amount, date or frequency of your Direct Debit Time Inc. (UK) Ltd will notify you 10 working days in advance of your account being debited or as otherwise agreed. If you request Time Inc. (UK) Ltd to collect a payment, confirmation of the amount and date will be given to you at the time of the request. If an error is made in the payment of your Direct Debit, by Time Inc. (UK) Ltd or your bank or building society you are entitled to a full and immediate refund of the amount paid from your bank or building society – if you receive a refund you are not entitled to, you must pay it back when Time Inc. (UK) Ltd asks you to. You can cancel a Direct Debit at any time by simply contacting your bank or building society. Written confirmation may be required. Please also notify us.



Complete this coupon and send to: **FREEPOST Time Inc (No further address needed. No stamp required – for UK only)**

**YES! I would like to subscribe to Amateur  
Photographer saving up to 35%**

Please tick your preferred payment method

UK 3 monthly Direct Debit- pay only £24.99 per quarter, **SAVING YOU 35% of the full price of £38.88** **TOP OFFER**

2 years (102 issues) Credit Card - Pay only £201.99 (full price £311.00) saving 35% across the two years

1 year (51 issues) Credit Card - Pay only £108.49 (full price £155.50) saving 30% across the year

**Your details**

Mr/Mrs/Ms/Miss: Forename: \_\_\_\_\_  
Surname: \_\_\_\_\_  
Email: \_\_\_\_\_  
Address: \_\_\_\_\_  
Postcode: \_\_\_\_\_  
Home Tel No: (inc.area code) \_\_\_\_\_  
Mobile No. \_\_\_\_\_

Date of Birth: 

DD	MM	YY	YY
----	----	----	----

**I would like to send a gift to:**

Please also fill out 'Your Details' on the left. To give more than one subscription, please supply address details on a separate sheet.

Mr/Mrs/Ms/Miss: Forename: \_\_\_\_\_

Surname: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_

**Choose from 3 easy ways to pay:**

1. I enclose a cheque/postal order made payable to Time Inc. (UK) Ltd., for £ \_\_\_\_\_

2. Please debit £ \_\_\_\_\_ from my:

Visa  Visa Debit  MasterCard  Amex

Card No: \_\_\_\_\_

Expiry Date: 

MM	YY
----	----

Signature: \_\_\_\_\_  
(I am over 18)

Date: \_\_\_\_\_

**3. Pay only £24.99 every 3 months by Direct Debit (UK only)**

**Instruction to your Bank or Building Society to pay by Direct Debit**  
For office use only. Originator's reference - 764 221



Name of Bank: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_

Account Name: \_\_\_\_\_

Sort Code: \_\_\_\_\_

--	--	--	--	--	--

Account No: 

--	--	--	--	--	--	--	--

Please pay Time Inc. (UK) Ltd. Direct Debits from the account detailed on this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Time Inc. (UK) Ltd. and if so, details will be passed electronically to my Bank or Building Society.

Signature: \_\_\_\_\_  
(I am over 18)

Date: \_\_\_\_\_

\*Pay just £24.99 every 3 months by Direct Debit, with the price guaranteed for the first 12 months and we will notify you in advance of any price changes. Offer open to new subscribers only. Direct Debit offer is available to UK subscribers only. **Offer closes 6th July 2017.** Please allow up to 6 weeks for delivery of your first subscription issue (up to eight weeks overseas). The full subscription rate is for 1 year (51 issues) and includes postage and packaging. If the magazine ordered changes frequency per annum, we will honour the number of issues paid for, not the term of the subscription. For full terms and conditions, visit [www.magazinesdirect.com/terms](http://www.magazinesdirect.com/terms). For enquiries from the UK please call: 0330 333 1113, for overseas please call: +44(0) 330 333 1113 (lines are open Monday-Saturday, 8:00am- 6:00pm UK time) or e-mail: [help@magazinesdirect.com](mailto:help@magazinesdirect.com). Calls to 0330 numbers will be charged at no more than a national landline call, and may be included in your phone providers call bundle. The Rewards scheme is available for all active print subscribers of magazines published by Time Inc. (UK) Ltd, free of charge. Digital subscribers also get access as long as the subscription has been purchased directly through the publishers at [magazinesdirect.com](http://magazinesdirect.com). For full terms and conditions visit [mymagazinerewards.co.uk](http://mymagazinerewards.co.uk). We will process your data in accordance with our Privacy Policy ([www.timeincuk.com/privacy](http://www.timeincuk.com/privacy)). By providing your information, you agree to be contacted by Time Inc. (UK) Ltd, publisher of Amateur Photographer and other iconic media brands, with information about our goods and services and those of our carefully selected third parties. Please tick here if you do not wish to receive these messages:  by email and/or SMS  by post and/or telephone  about carefully selected third party goods and services.

QAP code 11YU

# Tech Support

Email your questions to: [apanswers@timeinc.com](mailto:apanswers@timeinc.com), **Twitter** @AP\_Magazine and #AskAP, or **Facebook**. Or write to Technical Support, Amateur Photographer Magazine, Time Inc. (UK), Pinehurst 2, Pinehurst Road, Farnborough Business Park, Farnborough, Hants GU14 7BF



Sony's Alpha 6000 uses an APS-C sensor with a 1.5x 'crop factor'

## Cropping factors and focal lengths

**Q** If someone is talking about focal lengths recommended for certain scenarios, are they normally always talking about full-frame sensor lens millimetres unless otherwise stated? On my Sony Alpha 6000, with its APS-C lens, does that mean I always have to take the 1.5x crop factor into account? For example, if someone recommends a 50mm focal length, do I need to look at 75mm APS-C lens? What about if I put a full-frame lens on APS-C camera? What calculations do I have to do then? I've watched lots of videos on websites about this, but am more confused than when I started! **Chris Bell**

**A** You're correct, Chris. You multiply the focal length of a lens on your Sony Alpha 6000 by 1.5x to get the focal length of a full-frame lens that gives you the same framed field of view. However, a lens of x mm focal length is the same as any other lens of x mm focal length, regardless of it being for APS-C, full frame, medium format, Micro Four Thirds, and so on. A subject viewed in focus at the same distance will be reproduced at one physical size on the camera sensor, regardless of the size of that sensor, so long as the focal length is the same. Field of view differences are all down to cropping of the view, either by the sensor dimensions or optical design to limit the image circle projected from the back of the lens. If you put a lens designed for a larger sensor on your camera, the image circle will be larger than needed. If you use a lens designed for a smaller sensor, the image circle is likely to be smaller so the corners of the frame may be cut off.

## Canon AC-1 meter problem

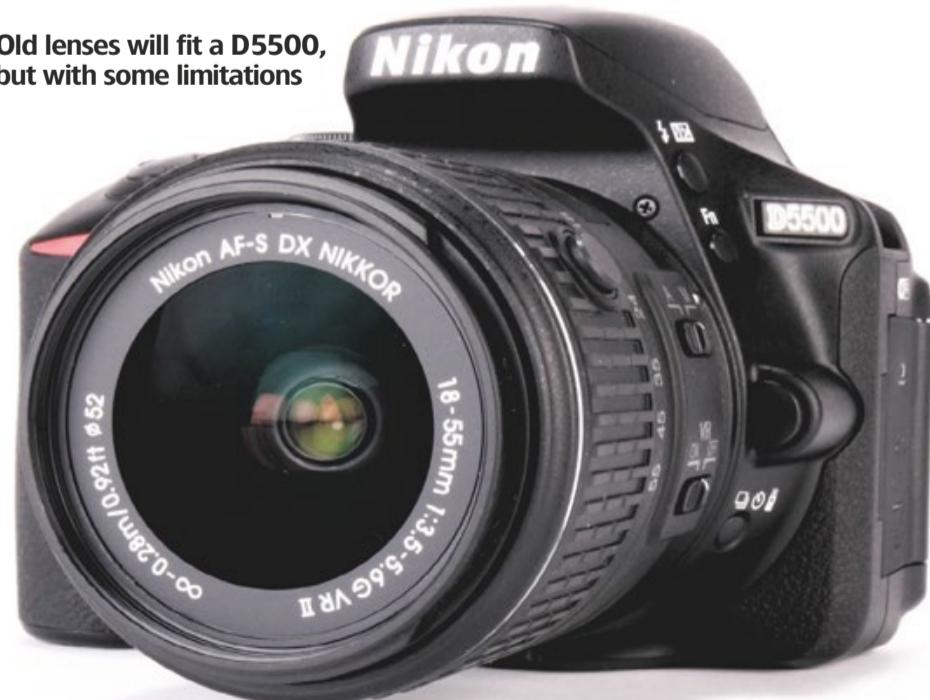
**Q** I have just bought my first film camera, a Canon AV-1. When I was taking some photographs recently I noticed that whenever I wanted to take a picture my lightmeter would mark the 1/1000sec shutter speed or basically almost touch the overexposure index. I am using

Fujifilm Superia 200. I tried changing the f-stops, but it didn't seem to help. Do you think there is something wrong with my lightmeter or is it something I am doing wrong? I haven't finished the roll of film yet, so I do not know if the pictures will turn out to be overexposed. **Val B (AP forum)**

**A** First, check that the film-speed setting is correct for your chosen film. This is set using the collar surrounding the film rewind knob and should be lined up with 200. Then check that the correct LR44-type 6V battery is fitted and it is in good condition. Ensure that the battery terminals are clean. There is no power on/off button, as electrical power is only used when you press the shutter button.

Next, while viewing the shutter-speed indicator needle in the viewfinder and half-depressing the shutter button, slowly cover the lens in order to progressively darken the view. If the needle drops, that shows the meter is at least working. If the needle does respond like this, go outside during daylight hours and set the lens to f/16 and point the camera at a normal outdoor scene. The 'sunny 16' rule for guesstimating exposure on an average sunny day should indicate a shutter speed of around 1/250sec. If it's overcast, it could go down to 1/125sec or thereabouts, and lower in the shade. Ultimately, get the film developed and you will have the evidence you need!

Old lenses will fit a D5500, but with some limitations



## Old lenses, new camera

**Q** I have a Nikon F301 film camera with various lenses. Would these lenses fit and work on a Nikon 5500? **Peter Sheldrake**

**A** Nikon's F-mount bayonet is basically the same now as it was when it was introduced in 1959. With a few exceptions, this means old Nikon lenses will physically mount onto a contemporary Nikon body. However, there is a risk of damage to some Nikon DSLRs with lenses prior to the AI (automatic indexing) era, which was introduced in 1977. Happily, the D5500 can be safely used with most pre-AI lenses. Your F301 was introduced in 1985, and it's most likely you have AI or AI-S type lenses. These lenses can be used on the D5500, but metering options are limited and you will need to enter lens-identification data into a legacy-lens menu on the camera. Manual focusing with the relatively small and dim D5500 viewfinder may be an issue as well. It's possible to fit a chip to these lenses that allows the camera to confirm correct focus.

**Q&A compiled by Ian Burley**

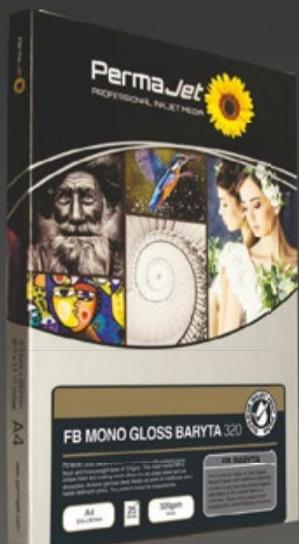


# NEW FB Mono Gloss Baryta 320



Image © Paul Hassell

Bring the beauty of the darkroom into the digital world with **FB Mono Gloss Baryta 320**, a fibre based inkjet media with a stunningly smooth glazed gloss surface.



**Available in:**  
A4 to A2 sheets  
and a range of  
15mtr rolls.

Get yours today  
from just

**£14.95**

[www.permajet.com](http://www.permajet.com)  
01789 739200

## WANTED FOR CASH Exclusively... **Nikon** HIGHEST PRICES PAID

Grays of Westminster are always seeking mint or near-mint examples of Nikon equipment:

Nikon cameras, AF-D Nikkor lenses, AF-S Silent Wave Nikkor lenses, AF Micro-Nikkor lenses, Nikon Speedlights, Nikkor AIS & AI Manual Focus Lenses

Please telephone 020-7828 4925 or you can email us at [info@graysofwestminster.com](mailto:info@graysofwestminster.com) for our highest offer.

Grays of Westminster  
– Exclusively... **Nikon**  
40 Churton Street, Pimlico  
London SW1V 2LP



[www.graysofwestminster.co.uk](http://www.graysofwestminster.co.uk)

## Palm Labs Photographic Processing & Printing

Palm Laboratory Ltd  
69 Rea Street  
Birmingham B5 6BB

Established 30 Years



Palm Laboratory

- **Kodak & ILFORD Film now in stock**
- **E6 / Slide / C41 / Neg / B&W Film Processing**
- **Process & Print Packages on Kodak Paper**
- **Digital Package Deals on Kodak Paper**
- **35mm / 120 / 5x4 / 10x8 Film's**
- **Traditional Black & White on Ilford Paper**
- **Optical Colour Handprints on Kodak Paper**
- **Drum & Whole film Scanning Services**
- **Exhibition Prints on Kodak Paper**
- **Digital C-type Print's on Kodak Endura**
- **Portfolio's and Student Discounts**
- **Lomography Prints and Scans**
- **Mounting Services ● Metallic / Gloss / Matt Paper**
- **Friendly Advice ● Postal Service**

**0121 622 5504**

[www.palmlabs.co.uk](http://www.palmlabs.co.uk)  
[info@palmlabs.co.uk](mailto:info@palmlabs.co.uk)



## Professor Newman on...

# Stacked Sensors

A closer look at Sony's latest innovation that brings stacked sensor technology to a full-frame sensor

**O**ne of the innovations that has increasingly been found in mobile-phone sensors is stacked sensor technology. The newly announced Sony Alpha 9 introduces this technology to a full-frame sensor for the first time. This article explains what the technology can offer, how it works, its limitations and how Sony has worked within these to produce the performance gains of the Alpha 9.

Rather than being made from a single silicon chip, a stacked sensor is made from a sandwich of two or more chips that can perform additional functions. The process is made easier if the sensor chip is of the 'back side illuminated' type, meaning that the electronic circuitry is on the opposite side of the chip to the light-sensitive side, so that the additional chips don't obscure the light.

There are possible advantages to a stacked sensor. It potentially allows the whole sensor chip to be used for light gathering by pushing all the electronic helper functions onto a separate chip. This requires a separate connection for each pixel to the helper chip.

Secondly, it allows different fabrication processes to be used

for different parts of the sensor so that they can be optimised for specific purposes. Thirdly, it can allow the mitigation of one of the major headaches in designing digital cameras – how to move large amounts of data from the sensor to the signal processor along what must inevitably be a limited speed channel.

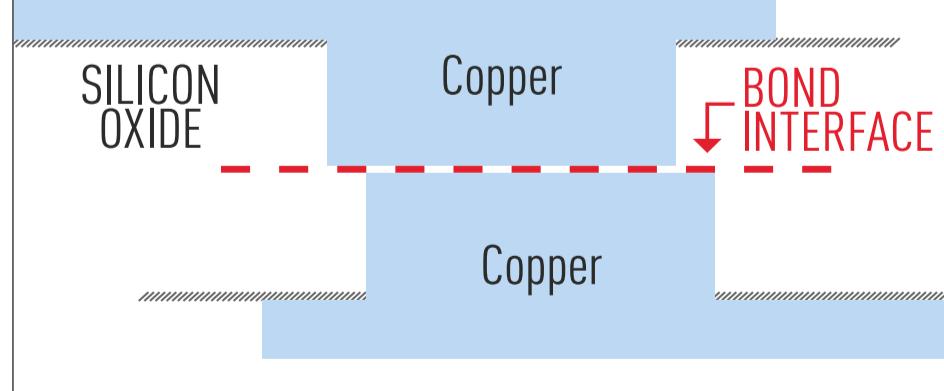
Of these potential advantages, Sony's technology really makes use of only the second and third point because the technology used cannot connect to individual pixels. The size of the connection between the different chips is of the order of ten micrometres, larger than the pixel size of any modern camera. However, even with such a large connection it is possible to make very many more connections to the sensor chip than would be possible otherwise.

The stacking technology is licensed from the American company Ziptronix (now owned by Tessera). The silicon wafers to be stacked are finished with circular metal contact points and a layer of silicon dioxide (glass), which is made perfectly smooth. A special machine aligns the wafers so that the corresponding points on each wafer fit together and the wafers

**'Sony has used this technology for a faster way to get data off the sensor chip'**

are pressed together. A characteristic of silicon dioxide is that very smooth surfaces will attract due to van der Waals forces, securing the wafers together. Subsequent heat treatment strengthens the bond, and the differential thermal expansion between silicon dioxide and the contact metal squeezes the contacts firmly together as the wafer cools. Finally, after a stack of wafers has been produced, the composite wafer is diced into individual sensor chips, each a sandwich of stacked chips.

In the Alpha 9 Sony has used this technology to provide a much faster means of getting data off the sensor chip. Normal Sony Exmor sensors have one or two rows of analog to digital converters for each column of pixels. The Alpha 9 has four. Moreover, these are read out as many small blocks, since it is possible to provide many data paths. The stacked chips provide two resources. One is simply memory. Before the next exposure can start, a normal CMOS sensor chip must be completely read out, the speed of which is limited by the data path to the image processor. The memory buffers the data, so that it can be transferred during the subsequent exposure. The second resource is an image processor, which is used to perform analysis for the on-sensor phase detection autofocus. This allows the AF processing to happen extremely quickly and utilise many more AF points than on previous cameras.



Metal contact points are squeezed together by contraction of the bonded glass

**Bob Newman** is currently Professor of Computer Science at the University of Wolverhampton. He has been working with the design and development of high-technology equipment for 35 years and two of his products have won innovation awards. Bob is also a camera nut and a keen amateur photographer

### Contact

Amateur Photographer, Time Inc (UK) Ltd, Pinehurst 2, Pinehurst Road, Farnborough, Hampshire GU14 7BF

Telephone 01252 555 213

Email amateurphotographer@timeinc.com

Picture returns: telephone 01252 555 378

Email apppicturedesk@timeinc.com

### Subscriptions

Enquiries and orders email

help@magazinesdirect.com

Alternatively, telephone 0330 333 1113

overseas +44 330 1113 (lines open Mon-Fri GMT 8.30am-5.30pm excluding bank holidays)

One year (51 issues) UK £155.50; Europe €259;

USA \$338.99; Rest of World £221.99

### Test Reports

Contact OTC for copies of AP test reports.

Tel: 01707 273 773

### Advertising

Email paul.ward@timeinc.com

Inserts: Call **Mona Amarasinghe, Canopy**

Media, on 0203 148 3710

### Editorial team

Group Editor	Nigel Atherton
Deputy Editor	Geoff Harris
PA and Senior Brand Assistant	Leeanne Wright
Technical Editor	Andy Westlake
Deputy Technical Editor	Michael Topham
Technique Editor	Tracy Calder
Senior Features Writer	Oliver Atwell
News editor	Hollie Latham
News assistant	Hucker Liam Clifford
Production Editor	Jacqueline Porter
Chief Sub Editor	Menezes Jolene
Senior Sub Editor	Stroud Amanda
Art Editor	Foster Sarah
Senior Designer	Farmer Robert
Studio Manager	Sydenham Andrew
Picture Researcher	Barratt Rosie
Video Production	Laughton Dan
Photo-Science Consultant	Newman Professor Robert
Senior contributor	Hicks Roger

Special thanks to **The moderators of the AP website** Andrew Robertson, Lisadb, Nick Roberts, The Fat Controller

### Advertising

Head of Market	Paul Ward	01252 555 342
Head of Market	Justine Jones	01622 861 148
Account Manager	Liz Reid	01252 555 354
Media Advisor	Lucy Willans	01252 555 348
Media Advisor	Tommy Sullivan	01252 555 344
Production Coordinator	James Wise	0203 148 2694

### Marketing

Head of Marketing	Samantha Blakey
Marketing Manager	Amy Golby

### Publishing team

Chief Executive Officer	Marcus Rich
Group Managing Director	Oswin Grady
Publishing Director	Simon Owen

### Group Magazines Editor

Garry Coward-Williams
Printed in the UK by the Wyndham Group

Distributed by Marketforce, 5 Churchill Place, London E14. Telephone 0203 787 9001

**Editorial Complaints** We work hard to achieve the highest standards of editorial content, and we are committed to complying with the Editors' Code of Practice (<https://www.ipso.co.uk/IPSO/cop.html>) as enforced by IPSO. If you have a complaint about our editorial content, you can email us at [complaints@timeinc.com](mailto:complaints@timeinc.com) or write to Complaints Manager, Time Inc. (UK) Ltd Legal Department, 161 Marsh Wall, London E14 9AP. Please provide details of the material you are complaining about and explain your complaint by reference to the Editors' Code. We will endeavour to acknowledge your complaint within 5 working days, and we aim to correct substantial errors as soon as possible.

All contributions to Amateur Photographer must be original, not copies or duplicated to other publications. The editor reserves the right to shorten or modify any letter or material submitted. Time Inc. (UK) or its associated companies reserves the right to re-use any submission sent to the letters column of Amateur Photographer magazine, in any format or medium, WHETHER PRINTED, ELECTRONIC OR OTHERWISE Amateur Photographer® is a registered trademark of Time Inc. (UK) © Time Inc. (UK) 2017 Amateur Photographer (incorporating Photo Technique, Camera Weekly & What Digital Camera) Email: [amateurphotographer@timeinc.com](mailto:amateurphotographer@timeinc.com) Website: [www.amateurphotographer.co.uk](http://www.amateurphotographer.co.uk) Time Inc. switchboard tel: 0203 148 5000 Amateur Photographer is published weekly (51 issues per year) on the Tuesday preceding the cover date by Time Inc. (UK), 161 Marsh Wall, London E14 9AP. Distributed by Marketforce (UK) Ltd, 5 Churchill Place, London E14, ISSN 0002-6840. No part of this publication may be reproduced, stored in a retrieval or transmitted in any format or medium, whether printed, electronic or otherwise, without the prior written permission of the publisher or the editor. This is considered a breach of copyright and action will be taken where this occurs. This magazine must not be lent, sold, hired or otherwise disposed of in a mutilated condition or in any authorised cover by, or by trade, or annexed to any publication or advertising matter without first obtaining written permission from the publisher. Time Inc. (UK) Ltd does not accept responsibility for loss or damage to unsolicited photographs and manuscripts, and product samples. Time Inc. (UK) reserves the right to use any submissions sent to Amateur Photographer Magazine in any format or medium, including electronic. One-year subscription (51 issues) £155.50 (UK), €259 (Europe), \$338.99 (USA), £221.99 (rest of world). The 2015 US annual DEU subscription price is \$338.99, airfreight and mailing in the USA by named Air Business Ltd, c/o Worldnet Shipping Inc, 156-15, 146th Avenue, 2nd floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. US Postmaster: Send address changes to Amateur Photographer, Air Business Ltd, c/o Worldnet Shipping Inc, 156-15, 146th Avenue, 2nd floor, Jamaica, NY 11434, USA. Subscriptions records are maintained at Time Inc. (UK), 161 Marsh Wall, London E14 9AP. Air Business Ltd is acting as our mailing agent.

**Time Inc.**





Visit our website - updated daily  
**www.parkcameras.com/ap**  
 or e-mail us for sales advice using  
 sales@parkcameras.com

Call one of our knowledgeable sales advisors

Monday - Saturday (9:00am - 5:30pm)

**01444 23 70 60**



UK's largest independent photo store Award winning customer service Family owned & Run

## PENTAX K-1

**36.4 MEGA PIXELS**  
 4 fps  
 3.2"



The K-1 features a 36.4MP full-frame sensor with an AA filter simulator, Full HD 1080p video, a new SR II 5-axis shake reduction mechanism, and Pixel Shift Resolution System.

FREE D-BG6 battery grip when purchasing the K-1!

In stock from £1,999.00

### Pentax K-70

**24.2 MEGA PIXELS**  
 Body only +18-50mm  
 £599.00 £729.00  
 FREE 50mm f/1.8 lens when bought with the K-70!

### Pentax KP

**24.3 MEGA PIXELS**  
 Body only Add a Pentax D-BG7 battery grip for £259.00  
 FREE 35mm f/2.4 AL lens when bought with the KP!

### Pentax 645Z

**51.4 MEGA PIXELS**  
 Body only +55mm  
 £5,799.00 £6,699.00  
 See website for 24 months 0% finance!

## Panasonic LUMIX GH5

**20.3 MEGA PIXELS**  
 9 fps  
 3.2"

**4K**



Delivering incredible 18 MP 6K Photo stills, recording 60p 4K Video - and silent & unobtrusive quick focus make this an outstanding camera for photographers and videographers.

Add a Panasonic DMW-BLF19E battery for £65.00

In stock from £1,699.00

### Panasonic TZ90

**20.3 MEGA PIXELS**  
 Body only +14-42mm  
 £699.00 £779.00  
 Add a Panasonic DMW-BLC12E battery for £49!

### Panasonic GX8

**20 MEGA PIXELS**  
 Body only +14-42mm  
 £699.00 £779.00  
 Learn more and place a pre-order at our website

8mm f/3.5 Fisheye £5699.00  
 LEICA 12mm f/1.4 £999.00  
 14mm f/2.5 MK II £299.00  
 30mm f/2.8 ASPH £269.00  
 42.5mm f/1.7 ASPH £299.00  
 7-14mm f/4.0 £729.00  
 35-100mm f/2.8 O.I.S. £799.00  
 45-175mm f/4.0-5.6 £349.00  
 LEICA 100-400mm £1,299.00  
 For even more Panasonic lenses, see in store or online.

## TAMRON LENSES

Prices updated DAILY! Visit us in store, online at [parkcameras.com](http://parkcameras.com) or call us on 01444 23 70 60

### Tamron 10-24mm f/3.5-4.5 Di-II VC HLD

**NEW!**  
 Coming soon! 77mm filters available from £29.99  
 £579.00  
 Learn more about this lens at [www.parkcameras.com](http://www.parkcameras.com)

### Tamron SP 24-70mm f/2.8 Di VC USD

**£50 cash back**  
 In stock! £749.00\* Available in Canon, Nikon or Sony fit  
 \*Price after £50 cashback from Tamron. Ends 30.06.17

### Tamron 16-300mm f/3.5-6.3 Di II VC PZD

**£30 cash back**  
 In stock! £399.00\* Available in Canon, Nikon or Sony fit  
 \*Price after £30 cashback from Tamron. Ends 30.06.17

### Tamron 70-200mm f/2.8 Di VC USD G2

**NEW!**  
 In stock! 77mm filters available from £29.99  
 £1,349.00  
 Learn more about this lens at [www.parkcameras.com](http://www.parkcameras.com)

### Tamron 150-600mm f/5-6.3 Di VC USD

**£75 cash back**  
 In stock! £754.00\* Available in Canon, Nikon or Sony fit  
 \*Price after £75 cashback from Tamron. Ends 30.06.17

### Tamron 150-600mm f/5-6.3 Di VC USD G2

**£100 cash back**  
 In stock! £1,240.00\* Available in Canon, Nikon or Sony fit  
 \*Price after £10 cashback from Tamron. Ends 30.06.17

### Tamrac Hoodoo 18 Backpack

**NEW!**  
 In stock at £89.95 Available in a variety of colours!

### Metz 64 AF-1 Flashgun

**£75 cash back**  
 In stock at £309.00 Available in a variety of different fits!

### 360FLY HD Action Camera

**£100 cash back**  
 In stock at £299.00 Add the floating hand grip for £44.95

**Lowepro**

**Passport Messenger Shoulder Bag**  
 Available in Grey or Black  
 from £29.97

**Adventure SH 160 II Shoulder Bag**  
 only £32.95

**Tahoe BP 150 Backpack**  
 Red, Black or Blue available

**DroneGuard Kit**  
 Grab-and-go carry system for your quadcopter  
 only £51.97

**Toploader Zoom 55 AW II**  
 only £38.95

For even more bags, see our website!



Learn new techniques and get to know your camera better with our range of training courses.  
[www.parkcameras.com/training](http://www.parkcameras.com/training)

## SIGMA LENSES

Prices updated DAILY! Visit us in store, online at [parkcameras.com](http://parkcameras.com) or call us on 01444 23 70 60

### Sigma 105mm f/2.8 EX DG OS HSM

**NEW!**  
 In stock at £359.00 Available in Canon, Nikon or Sigma fit  
 Learn more about this lens at [www.parkcameras.com](http://www.parkcameras.com)

### Sigma 17-70mm f/2.8-4 MACRO OS HSM

**NEW!**  
 In stock at £349.00 Available in Canon, Nikon or Pentax fit  
 Learn more about this lens at [www.parkcameras.com](http://www.parkcameras.com)

### Sigma 150-600mm f/5-6.3 DG OS HSM | C

**NEW!**  
 In stock at £789.99 Available in Canon, Nikon or Sigma fit  
 Add a Sigma 1.4x converter (TC-1401) for only £100  
 Learn more about this lens at [www.parkcameras.com](http://www.parkcameras.com)

4.5mm f/2.8 Fisheye EX DC  
 8mm f/3.5 Circ. Fish EX DG  
 15mm f/2.8 Diag F/eye EX DG  
 19mm f/2.8 DN  
 20mm f/1.4 DG HSM  
 24mm f/1.4 DG HSM  
 30mm f/1.4 DC HSM  
 30mm f/2.8 DN  
 35mm f/1.4 DG HSM  
 60mm f/2.8 DN  
 85mm f/1.4 EX DG HSM  
 150mm f/2.8 OS Macro  
 180mm f/2.8 EX DG OS HSM  
 300mm f/2.8 APO EX DG  
 500mm f/4 APO EX DG  
 8-16mm f/4.5-5.6 DC HSM  
 10-20mm f/3.5 EX DC HSM  
 12-24mm f/4.5-5.6 II DG HSM

£699.00 17-50mm f/2.8 DC OS HSM £329.00  
 £699.00 18-35mm f/1.8 DC HSM £649.00  
 £599.00 18-200mm DC OS HSM £289.00  
 £149.00 18-250mm DC Macro OS HSM £349.00  
 £699.00 18-300mm f/3.5-6.3 DC Macro £369.00  
 £649.00 24-35mm f/2 DG HSM Art £759.00  
 £359.00 24-70mm f/2.8 IF EX DG £519.00  
 £149.00 24-105mm f/4 DG OS HSM £599.00  
 £649.00 50-100mm f/1.8 DC HSM £949.00  
 £149.00 50-500mm f/4.5-6.3 OS HSM £1,099.00  
 £999.00 70-200mm f/2.8 EX DG OS £899.00  
 £779.00 70-300mm f/4.0-5.6 DG £129.00  
 £1,239.00 70-300mm f/4.0-5.6 APO £179.00  
 £2,599.00 120-300mm f/2.8 OS HSM £2,699.00  
 £4,999.00 150-600mm f/5-6.3 Sport £1,329.00  
 £599.00 150-600mm Sport + 1.4x £1,429.00  
 £339.00 300-800mm f/5.6 EX DG £6,499.00  
 £649.00 1.4x APO EX DG £199.00

### Vanguard Alta Pro 2 +263CT

**NEW!**  
 In stock at only £289.00 For even more Vanguard Tripods, see in store or online

### Vanguard Havana 48 Backpack

**NEW!**  
 In stock at only £99.00 For even more Vanguard Bags, see in store or online

### Vanguard Alta Fly 49T Roller Bag

**NEW!**  
 In stock at only £229.00 For even more Vanguard Bags, see in store or online

## Used Equipment at Park Cameras

We offer a wide range of used & second-hand cameras, all thoroughly quality checked, tested & cleaned, including a full sensor clean on all cameras. Our quality assurance processes have been established to ensure that when you buy used cameras from Park Cameras, the experience is stress and hassle free, & with a six-month warranty on most of our photography equipment, including on second hand cameras and lenses, you can buy with confidence. See below for just some of the products currently in stock (images for illustration purposes only)!

### Canon EOS-1D IV Body only

from £999

### Canon EOS 5D Mark III

from £1,099

### Fujifilm X-T1

from £399

### Olympus OM-D E-M1

from £449

For even more cameras & a variety of lenses, visit [www.parkcameras.com/used](http://www.parkcameras.com/used)

Want to sell or part exchange your gear in just 3 easy steps?  
 Visit [www.parkcameras.com/sell-or-part-exchange](http://www.parkcameras.com/sell-or-part-exchange) & receive a quote within 48 hours!



## Lowering the cost of printing...

We are a small, family owned and run company, specialising in photographic consumables – and proud winners of multiple Good Service Awards.

We are located in Leamington Spa, in the heart of Warwickshire. If you're passing, please pop into our shop and meet Cooper – our office dog!

01926 339977 [www.premier-ink.co.uk](http://www.premier-ink.co.uk)

### Ink Cartridges

We carry one of the largest ranges of printer ink cartridges in the UK, with cartridges in stock for practically every inkjet printer. We always stock **Original** cartridges, which are made by your printer manufacturer, and in many cases we also offer **Compatible** cartridges, which are usually made by a UK company called **Jet Tec**. Using **Jet Tec Compatible**s is a way of saving money, without compromising on the quality of your prints.

Here are the results from two independent ink tests that agree...

"Jet Tec's colours were superb, with single greys and blacks very close to Epson... so Jet Tec wins!"  
- Total Digital Photography Magazine

"What we're looking at here is not only the best choice of ink for the R300 printer, but also the best choice of ink in this group test, period. There's just no getting away from the superb combination of performance and pricing."  
- Computer Upgrade Magazine



### Canon

PGi29	Pixma Pro 1	Originals: Set of 12 Colours 36ml each	£249.99	£21.99
PGi72	Pixma Pro 10	Originals: Set of 10 Colours 14ml each	£99.99	£10.99
CLI42	Pixma Pro 100	Originals: Set of 8 Colours 13ml each	£83.99	£10.99
CLI8	Pixma Pro 9000	Originals: Set of 8 Colours 14ml each	£83.99	£10.99
PGi9	Pixma Pro 9500	Originals: Set of 10 Colours 14ml each	£107.99	£10.99
<b>More Canon Inks...</b>				
PGi520/CLI521	Set of 5	Originals: £49.99	£11.99	
PGi520 Black	19ml	Originals: £10.29		
CLI521	Colours 9ml	Originals: £49.99		
PGi525/CLI526	Set of 5	Originals: £11.99		
PGi525 Black	19ml	Originals: £10.29		
CLI526	Colours 9ml	Originals: £43.99		
PGi550/CLI551	Set of 5	Originals: £10.99		
PGi550 Black	15ml	Originals: £8.99		
CLI551	Colours 7ml	Originals: £59.99		
PGi550/CLI551XL	Set 5	Originals: £12.99		
PGi550XL Black	22ml	Originals: £11.99		
CLI551XL	Colours 11ml	Originals: £12.99		
PG540 Black	8ml	Originals: £19.99		
PG540XL Black	21ml	Originals: £19.99		
CLI541 Colour	8ml	Originals: £16.99		
CL541XL Colour	15ml	Originals: £19.99		
PG545XL Black	15ml	Originals: £15.49		
CL546XL Colour	13ml	Originals: £16.99		
Compatibles:		£4.99	£3.99	
PGi5 Black	27ml	Compatibles: £19.99		
CLI8 Colours	13ml	Compatibles: £4.99		
PGi5/CLI8	Set of 5	Compatibles: £19.99		
PGi520 Black	19ml	Compatibles: £4.99		
CLI521 Colours	9ml	Compatibles: £3.99		
PGi525/CLI526	Set of 5	Compatibles: £19.99		
PGi525 Black	19ml	Compatibles: £4.99		
CLI526 Colours	9ml	Compatibles: £3.99		
PGi550/CLI551	Set of 5	Compatibles: £19.99		
PGi550 Black	15ml	Compatibles: £4.99		
CLI551 Colours	7ml	Compatibles: £3.99		
PGi550/CLI551XL	Set 5	Compatibles: £19.99		
PGi550XL Black	22ml	Compatibles: £4.99		
CLI551XL Colours	11ml	Compatibles: £3.99		
PG540 Black	8ml	Compatibles: £19.99		
PG540XL Black	21ml	Compatibles: £4.99		
CLI541 Colour	8ml	Compatibles: £19.99		
CL541XL Colour	15ml	Compatibles: £4.99		
PG545XL Black	15ml	Compatibles: £19.99		
CL546XL Colour	13ml	Compatibles: £4.99		

### EPSON

No.16	Fountain Pen Inks	Originals: No.16 Set of 4	£28.99	
No.16	Black 5.4ml	Originals: £8.99		
No.16	Colours 3.1ml each	Originals: £6.99		
No.16XL	Set of 4	Originals: £53.99		
No.16XL	Black 12.9ml	Originals: £15.99		
No.16XL	Colours 6.5ml each	Originals: £12.99		
No.16	Set of 4	Compatibles: £14.99		
No.16	Black 12ml	Compatibles: £3.99		
No.16	Colours 12ml each	Compatibles: £3.99		
No.18	Daisy Inks	Originals: No.18 Set of 4	£30.99	
No.18	Black 5.2ml	Originals: £8.99		
No.18	Colours 3.3ml each	Originals: £7.49		
No.18XL	Set of 4	Originals: £54.99		
No.18XL	Black 11.5ml	Originals: £16.99		
No.18XL	Colours 6.6ml each	Originals: £12.99		
No.24	Elephant Inks	Originals: No.24 Set of 6	£52.99	
No.24	Colours 4.6ml each	Originals: £8.99		
No.24XL	Set of 6	Originals: £87.99		
No.24XL	Colours 8.7ml each	Originals: £14.99		
No.24	Set of 6	Compatibles: £22.99		
No.24	Black 7ml	Compatibles: £3.99		
No.24	Colours 7ml each	Compatibles: £3.99		
No.26	Polar Bear Inks	Originals: No.26 Set of 4	£35.99	
No.26	Black 6.2ml	Originals: £9.99		
No.26	Colours 4.5ml each	Originals: £8.99		
No.26XL	Set of 4	Originals: £63.99		
No.26XL	Black 12.1ml	Originals: £16.99		
No.26XL	Colours 9.7ml each	Originals: £15.99		
No.26	Set of 4	Compatibles: £14.99		
No.26	Black 10ml	Compatibles: £3.99		
No.26	Colours 7ml each	Compatibles: £3.99		
T0481-T0486	Seahorse Inks	Originals: Set of 6	£89.99	
T0481-T0486	Colours 13ml each	Originals: £18.99		
T0481-T0486	Compatibles: Set of 6	Originals: £19.99		
T0481-T0486	Colours 13ml each	Originals: £3.99		
T0541-T0549	Frog Inks	Originals: Set of 8	£112.99	
T0541-T0549	Colours 13ml each	Originals: £14.99		
T0541-T0549	Compatibles: Set of 8	Originals: £27.99		
T0541-T0549	Colours 13ml each	Originals: £3.99		
T0591-T0599	Lily Inks	Originals: Set of 8	£102.99	
T0591-T0599	Colours 13ml each	Originals: £12.99		
T0591-T0599	Compatibles: Set of 8	Originals: £27.99		
T0591-T0599	Colours 13ml each	Originals: £3.99		
T1571-T1579	Turtle Inks	Originals: Set of 8	£166.99	
T1571-T1579	Colours 25.9ml each	Originals: £20.99		
T7601-T7609	Killer Whale	Originals: Set of 9	£187.99	
T7601-T7609	Colours 25.9ml each	Originals: £20.99		

### Albums & Frames

We now stock a comprehensive range of frames, mounts, albums and accessories. The full range can be viewed on our website, with detailed close-up images of each product to help you choose the perfect way to display your printed photographs. Below is just a tiny sample of what we offer:



### Photo Papers

We carry a massive range of papers (sheets & rolls) at competitive prices. Below are some examples of the selection we stock.



<b>Photo Glossy 160gsm:</b>	6x4 50 sheets +50 FREE	£3.99
<b>Photo Satin 200gsm:</b>	6x4 100 sheets +100 FREE	£9.99
<b>A4 20 sheets</b>	A4 20 sheets	£6.99
<b>Photo Glossy 200gsm:</b>	6x4 100 sheets +100 FREE	£9.99
<b>A4 20 sheets</b>	A4 20 sheets	£6.99
<b>Premium Pearl 270gsm:</b>	6x4 50 sheets +50 FREE	£6.99
<b>A4 50 sheets</b>	A4 50 sheets	£16.99
<b>Premium Gloss 270gsm:</b>	6x4 50 sheets OFFER	£6.99
<b>A3 25 sheets</b>	A3 25 sheets	£15.99
<b>Smooth Pearl 310gsm:</b>	6x4 100 sheets	£17.99
<b>A4 100 sheets</b>	A4 100 sheets	£21.99
<b>A4 25 sheets</b>	A4 25 sheets	£16.99
<b>A4 100 sheets</b>	A4 100 sheets	£47.99
<b>A4 25 sheets</b>	A4 25 sheets	£31.99
<b>17" Roll 30 metres</b>	17" Roll 30 metres	£119.99
<b>24" Roll 30 metres</b>	24" Roll 30 metres	£119.99
<b>Titanium Lustre 280gsm:</b>	A4 25 sheets	£22.99
<b>A3 25 sheets</b>	A3 25 sheets	£44.99
<b>13" Roll 10 metres</b>	13" Roll 10 metres	£62.99
<b>Oyster 271gsm:</b>	6x4 100 sheets	£12.99
<b>7x5 100 sheets</b>	7x5 100 sheets	£18.99
<b>A4 50 sheets</b>	A4 50 sheets	£18.99
<b>A3 25 sheets</b>	A3 25 sheets	£22.99
<b>13" Roll 10 metres</b>	13" Roll 10 metres	£26.99
<b>17" Roll 30 metres</b>	17" Roll 30 metres	£64.99
<b>24" Roll 30 metres</b>	24" Roll 30 metres	£89.99
<b>Gloss 271gsm:</b>	6x4 100 sheets	£12.99
<b>7x5 100 sheets</b>	7x5 100 sheets	£18.99
<b>A4 50 sheets</b>	A4 50 sheets	£18.99
<b>A3 25 sheets</b>	A3 25 sheets	£22.99
<b>13" Roll 10 metres</b>	13" Roll 10 metres	£64.99
<b>17" Roll 30 metres</b>	17" Roll 30 metres	£89.99
<b>Premium Matt Duo 200gsm:</b>	A4 50 sheets	£14.99
<b>A4 50 sheets</b>	A4 50 sheets	£18.99
<b>Heavy Duo Matt 310gsm:</b>	A4 50 sheets	£18.99
<b>A3+ 50 sheets</b>	A3+ 50 sheets	£51.99
<b>Gold Fibre Silk 310gsm:</b>	A4 50 sheets	£43.99
<b>A3+ 50 sheets</b>	A3+ 50 sheets	£109.99
<b>Gold Mono Silk 270gsm:</b>	A4 25 sheets	£18.99
<b>A3+ 25 sheets</b>	A3+ 25 sheets	£49.99
<b>Fotospeed</b>		
<b>Smooth Pearl 290gsm:</b>	6x4 100 sheets	£12.99
<b>7x5 100 sheets</b>	7x5 100 sheets	£16.99
<b>A4 50 sheets</b>	A4 50 sheets	£17.99
<b>A3 50 sheets</b>	A3 50 sheets	£34.99
<b>A3+ 25 sheets</b>	A3+ 25 sheets	£25.99
<b>Panoramic 25 sheets</b>	Panoramic 25 sheets	£26.99
<b>17" Roll 30 metres</b>	17" Roll 30 metres	£68.99
<b>24" Roll 30 metres</b>	24" Roll 30 metres	£85.99
<b>PF Lustre 275gsm:</b>		

# Lowering the cost of photography

Orders are shipped promptly by Royal Mail 1st class post, for which we charge just £1.99 per order. All prices include VAT, and a full VAT receipt is provided with every order. Payment accepted credit/debit card, cheque or postal order. Orders accepted securely online, www.premier-ink.co.uk, over the telephone 01926 339977, by post, or by visiting our shop: Premier Ink & Photographic, Longfield Road, Sydenham Ind Estate, Leamington Spa CV31 1XB.

01926 339977 [www.premier-ink.co.uk](http://www.premier-ink.co.uk)



Premier  
Ink & Photographic

## Memory

The full range of Sandisk and Lexar memory cards at very competitive prices.

### SDHC & SDXC

#### Lexar Professional 633X (95MB/s)



16GB £8.99

32GB £15.99

64GB £27.99

128GB £54.99

#### 1000X (150MB/s)



16GB £14.99

32GB £22.99

64GB £35.99

128GB £63.99

#### 2000X (300MB/s)



32GB £51.99

64GB £95.99

#### Sandisk Blue 33X (5MB/s)



4GB £3.49

8GB £3.99

16GB £5.99

#### Sandisk Ultra 266X (40MB/s)



8GB £4.99

16GB £6.99

32GB £12.99

64GB £24.99

#### Sandisk Extreme 400X (60MB/s)



16GB £10.99

32GB £17.99

64GB £34.99

#### Sandisk Extreme Pro 633X (95MB/s)



16GB £17.99

32GB £23.99

64GB £42.99

128GB £82.99

#### 1866X (280MB/s)



16GB £49.99

32GB £79.99

64GB £129.99

#### Compact Flash

##### Lexar Professional 800X (120MB/s)



8GB £19.99

16GB £27.99

32GB £36.99

64GB £56.99

#### 1066X (160MB/s)



16GB £33.99

32GB £56.99

64GB £99.99

128GB £192.99

#### Sandisk Ultra 333X (50MB/s)



8GB £11.99

16GB £15.99

32GB £24.99

#### Sandisk Extreme 800X (120MB/s)



16GB £26.99

32GB £32.99

64GB £47.99

128GB £94.99

#### Sandisk Extreme Pro 1066X (160MB/s)



16GB £33.99

32GB £47.99

64GB £82.99

128GB £149.99

#### XQD Cards

##### Lexar Professional 1333X (200MB/s)



32GB £69.99

64GB £99.99

#### MicroSDHC & SDXC

##### Lexar Professional 633X (95MB/s)



32GB £21.99

64GB £43.99

#### Delkin Professional 375X (56MB/s)



32GB £16.99

64GB £32.99

#### Sandisk Ultra 320X (48MB/s)



16GB £6.99

32GB £12.99

64GB £24.99

#### Readers & Cases

##### Lexar USB3 Card Reader



£22.99

##### Lexar HR1 Workflow Hub



£49.99

##### Delkin USB2 Card Reader



£9.99

##### Delkin USB3 Card Reader



£19.99

##### Delkin SD Card (x8) Case



£6.99

##### Delkin CF Card (x4) Case



£6.99

## Batteries

Replacement rechargeable Li-Ion batteries, manufactured by Hahnel or Blumax. All come with a two-year guarantee.

### NB-2L/LH for Canon

£9.99

### NB-4L for Canon

£9.99

### NB-5L for Canon

£9.99

### NB-6L for Canon

£9.99

### NB-7L for Canon

£9.99

### NB-9L for Canon

£9.99

### NB-10L for Canon

£12.99

### NB-11L for Canon

£12.99

### BP-511 for Canon

£12.99

### LP-E5 for Canon

£9.99

### LP-E6 for Canon

£16.99

### LP-E8 for Canon

£12.99

### LP-E10 for Canon

£12.99

### LP-E12 for Canon

£12.99

### NP45 for Fuji

£9.99

### NP50 for Fuji

£9.99

### NP95 for Fuji

£9.99

### NPW126 for Fuji

£12.99

### NP400 for Fuji

£12.99

### EN-EL3E for Nikon

£14.99

### EN-EL5 for Nikon

£9.99

### EN-EL9 for Nikon

£12.99

### EN-EL10 for Nikon

£9.99

### EN-EL11 for Nikon

£9.99

### EN-EL12 for Nikon

£9.99

### EN-EL14 for Nikon

£19.99

### EN-EL15 for Nikon

£24.99

### EN-EL19 for Nikon

£12.99

### EN-EL20 for Nikon

£12.99

### EN-EL21 for Nikon

£12.99

### Li40B/42B for Olympus

£9.99

### Li50B for Olympus

£9.99

### BLM-1 for Olympus

£12.99

### BLN-1 for Olympus

£24.99

### BLS-1 for Olympus

£12.99

### BLS-5 for Olympus

£15.99

### CGR-S0



# wex photographic

• Over 18,000 Products • Free Delivery on £50 or over\*\* • We can deliver on Saturday or Sunday

**Nikon D5**

20.8 megapixels  
12.0 fps  
4K Video

**D5 Body** £5209

D5 Body £5209

**Nikon D750**

24.3 megapixels  
6.5 fps  
1080p movie mode  
Full Frame CMOS Sensor

**D750** From £1599

D750 Body £1599  
D750 + 24-85mm £2099  
D750 + 24-120mm £2279

**Nikon D500 Black**

20.9 megapixels  
10.0 fps  
1080p movie mode

**D500** From £1729

D500 Body £1729  
D500 + 16-80mm £2479

**Nikon D810**

36.3 megapixels  
5.0 fps  
Full Frame CMOS Sensor

**D810 Body** £2399

D810 Body £2399

## What a customer said about us ...

"Love Wex. You can always be reassured you're going to get great service and a great item at the best price. Thanks"  
S. Pradham – Essex

## Explore new frontiers

### Panasonic

#### The Panasonic Lumix DMC-GH5

Capable of 6K photo and 4K recording, the Panasonic Lumix DMC-GH5 Digital Camera is a new upgrade to the popular GH4, offering exceptional performance for professional photographers and videographers alike. Built around a new 20.3-megapixel sensor and Venus Engine image processor, the flagship GH5 is capable of 6K photos and 4K video recording 60p/50p footage and 4:2:2 10-bit 4K video to UHS-II compatible dual SD card slots. Like its predecessor, the GH5 is fully weather-sealed and offers 12 fps (AFS) / 9 fps (AFC) high-speed burst shooting.



From £1699

Trade in,  
to trade up

Competitive prices. Free collection of your gear.  
Fast turnaround of your quote and credit.

wex.co.uk

**SONY A7R II Black**

42.4 megapixels  
5.0 fps  
4K Video

**A7R II Body** £2499

A7R II Body £2499  
A7S II Body £2499  
A7R Body £899  
A7 II Body £1249  
£1149 Inc. £100 Cashback\*  
A7s Body £1699  
£1499 Inc. £200 Cashback\*

**A6500**

24.0 megapixels  
11.0 fps  
4K Video

**A6500 Body** £1399

A6500 Body £1399  
£1249 Inc. £150 Cashback\*  
A6300 Body £849  
£699 Inc. £150 Cashback\*  
A6300 + 16-50mm £1029  
£879 Inc. £150 Cashback\*

**A99 II**

42.4 megapixels  
12.0 fps  
4K Video

**A99 II Body** £2999

A99 II Body £2999  
A68 Body £469  
A68 + 18-55mm £529  
A77 II Body £999  
A77 II + 16-50mm £1399

**Panasonic GX80**

16 megapixels  
8.0 fps  
4K Video

**GX80** From £447

GX80 Body £447  
GX80 + 12-32mm £549  
GX80 + 12-32mm + 35-100mm £699

**Panasonic GX800** New

16.0 megapixels  
5.8 fps  
4K Video

**GX800** £429

New GX800 + 12-32mm £429  
GX8 + 12-60mm £799

**RECOMMENDED FULL FRAME E-MOUNT LENSES:**

New Sony FE 85mm f1.4 G	£1599
New Sony FE 24-70mm f2.8 G	£1899
Sony FE 24-70mm f4.0 ZA OSS ZA Vario-Tessar Carl Zeiss T*	£879
£799 Inc. £80 Cashback*	
Sony FE 70-200mm f4.0 G OSS	£1249
£1169 Inc. £80 Cashback*	

\*Sony Cashback ends 05.09.17

**RECOMMENDED A-MOUNT LENSES:**

Sony 35mm f1.8 DT SAM	£149
Sony 28-75mm f2.8 SAM	£599
Sony 70-400mm f4.5-5.6 G SSM II	£1999
£1829 Inc. £170 Cashback*	

#### RECOMMENDED LENSES:

Panasonic 14-45mm f3.5-5.6	£259
Panasonic LUMIX 45-150mm f4.0-5.6 ASPH OIS	£179
Panasonic 45-175mm f4.0-5.6 LUMIX G X Vario	£349
Panasonic 100-300mm f4.0-5.6 LUMIX G Vario	£429
Panasonic 100-400mm f4.0-5.6 Power OIS - Micro Four Thirds Fit	£1299

**OLYMPUS OM-D E-M1 II**

20 megapixels  
60 fps  
1080p movie mode

**OM-D E-M1 II** From £1849

New OM-D E-M1 II Body £1849  
New OM-D E-M1 II + 12-40mm £2399  
OM-D E-M5 II Body £849  
£764 Inc. £85 Cashback\*  
OM-D E-M5 II + 12-40mm £1249  
£1164 Inc. £85 Cashback\*

**E-M10 II** New

Black or Silver

£60 Cashback\*

16.3 megapixels  
8.5 fps

**E-M10 II** From £449

OM-D E-M10 II Body £449  
£389 Inc. £60 Cashback\*  
OM-D E-M10 II + 14-42mm £569  
£509 Inc. £60 Cashback\*

**PENTAX K-1**

36 megapixels  
6.5 fps  
Full Frame CMOS Sensor

**K-1 Body** £1999

K-1 Body £1999  
KP Body £1099  
K-3 II Body £849  
K-3 II + 18-55mm £899  
K-3 II + 18-135mm £1199  
K-3 II + 16-85mm £1299  
K-70 from £599

**FUJIFILM X-T20** New

Black or Silver

24.3 megapixels  
8.0 fps  
1080p movie mode

**X-T20** From £799

New X-T20 Body £799  
New X-T20 + 16-50mm £899  
New X-T20 + 18-55mm £1099

**X-Pro2** New

Black

24.3 megapixels  
8 fps  
1080p movie mode

**X-Pro2** From £1349

X-Pro2 Body £1349  
X-Pro2 Silver + XF23mm £2149

**RECOMMENDED LENSES:**

Olympus 25mm f1.8 Pro	£1099
Olympus 300mm f4 IS PRO Lens	£2199
Olympus 12-40mm f2.8 Pro	£799
Olympus 40-150mm f2.8 Pro	£1125

**RECOMMENDED LENSES:**

Olympus 25mm f1.8	£349
Olympus 75mm f1.8	£699
Olympus 12-40mm f2.8 Pro	£799
Olympus 14-150mm f4.5-6.3	£549
Olympus 40-150mm f2.8 Pro	£1125

**RECOMMENDED LENSES:**

Pentax 15-30mm f2.8	£1449
Pentax 28-105mm f3.5-5.6	£549
Pentax 55-300mm f4.5-6.3	£399

**FUJINON LENSES**

16mm f1.4 R WR XF	£769
35mm f2 R WR XF	£349
50mm f2 R WR XF Lens	£449
56mm f1.2 R XF	£768
90mm f2 R LM WR XF	£749
16-55mm f2.8 R LM WR	£848
100-400mm f4.5-5.6 R LM OIS WR + 1.4x teleconverter	£1499

\*Olympus Cashback ends 15.07.17



**Wex Showroom**  
Unit B, Frenbury Estate  
Off Drayton High Road,  
Norwich. NR6 5DP.  
Open from 10am daily.

**visit wex.co.uk**  
**01603 208761**

Call us Mon-Fri 8am-7pm, Sat 9am-6pm, Sun 10am-4pm

• 30-Day Returns Policy<sup>†</sup> • Part-Exchange Available • Used items come with a 12-month warranty<sup>††</sup>

**Canon** | PRO PARTNER

## Pursue perfection – The new EOS 5D Mk IV

From the darkest shadow to the brightest highlight, a 30-megapixel CMOS sensor captures fine detail even in the toughest conditions, with a maximum native sensitivity of ISO 32,000. Shoot Dual Pixel RAW files for post-production adjustments like you've never seen before.

New 5D Mk IV Body £3349



New 5D Mk IV Body

£3349

**Canon** | PRO PARTNER

EOS 7D MkII



7D Mark II Body £1449

7D Mark II Body

£1449

**Canon** | PRO PARTNER

EOS 6D



6D From £1399

6D Body

6D + 24-105mm

**Canon** | PRO PARTNER

EOS 800D



800D

From £779

New 800D Body

£779

New 800D + 18-55mm

£869

760D Body

£579

750D Body

£549

£479 Inc. £70 Cashback\*

£599

750D + 18-55mm

£529 Inc. £70 Cashback\*

750D + 18-135mm

£799

£729 Inc. £70 Cashback\*

700D Body

£449

700D + 18-55mm IS STM

£499

**Canon** | PRO PARTNER

80D



80D

From £999

80D Body

£999

80D + 18-55mm

£1099

80D + 18-135mm

£1349

New 77D Body

£829

New 77D + 18-55mm

£919

New 77D + 18-135mm

£1199

**Canon** | PRO PARTNER

5DS R



5DS R Body

£3299

5DS R Body

£3299

**Canon** | PRO PARTNER

EOS 1D X Mk II



1D X Mark II Body

£4799

1D X Mark II Body

£4799

## Pre-Loved cameras

Quality used cameras, lenses and accessories

with 12 months warranty\*

wex.co.uk

\*Excludes items marked as incomplete or for spares

### Tripods

**GITZO**  
Gitzo

Series 3 4S XL

• 202cm Max Height

• 10cm Min Height

**New Systematic Tripods:**

Series 3 4S XL..... £799

Series 3 3S L..... £699

Series 5 4S XL..... £999

Series 5 6S G..... £1149

**Manfrotto**  
Imagine More

MT055XPRO3

• 170cm Max Height

• 9cm Min Height

MT055XPRO3

£169

MT055CXPRO3 Carbon Fibre..... £329

MT055CXPRO4 Carbon Fibre..... £349

**Manfrotto**  
Imagine More

Wex exclusive

Befree One

Travel Tripod - Red

• 130cm Max Height

• 49cm Min Height

Aluminium

Available in Black, Red, and Grey..... from £99

**JOBY**  
Hybrid GP2B

• 1000g Max Load

• 25.7cm Height



Joby Tripods

Original..... £16.99

Hybrid..... £29

SLR Zoom..... from £44.99

Focus GP-8..... from £89

### Flashguns & Lighting Accessories

**Canon** | PRO PARTNER

Speedlites:



430EX III-RT

£249



600EX-RT

£429



MR-14EX II

£549



MT-24EX

£879



SB5000

£499



SB700

£239



R1 Close-Up

£429



R1C1

£599



HVL-F43M

£249



HVL-F60M

£429



FL-300R

£134.99



FL-600R

£279



AF 540 FGZ II

£349



AF 360FGZ II

£249



Flashguns:



Flashguns:

Flashguns:

### PocketWizard



MiniTT1

£165



FlexTT5

£179



Plus III Set

£229



PlusX Set

£149

### Macro flash:



15 MS-1

£299

### Flashguns:



EF 610 DG ST

£109



EF 610 DG Super

£169

### EM-140 DG Macro Flash:



EM-140 DG

Macro Flash

£329

### Nissin Flashguns:



i40

£149



Di700 Air

£199

</div

**THE WEX PROMISE:** Over 18,000 Products | Free Delivery on £50 or over\*\* | 30-Day Returns Policy<sup>†</sup>

Follow us on Twitter, Facebook, Google+ and YouTube for all the latest offers, reviews, news and advice!


**DSLR Lenses**

**CANON LENSES**

EF 20mm f.2.8 USM	£449
EF 24mm f.1.4 II USM	£1499
EF 24mm f.2.8 IS USM	£439
EF 28mm f.1.8 USM	£419
EF 28mm f.2.8 IS USM	£389
EF 35mm f.1.4 II USM	£1799
EF 35mm f.2 IS USM	£469
EF 40mm f.2.8 STM	£199
EF 50mm f.1.2L USM	£1369
EF 50mm f.1.4 USM	£349
EF 50mm f.1.8 STM	£106
EF-S 60mm f.2.8 USM Macro	£419
EF 85mm f.1.2L II USM	£1799
EF 85mm f.1.8 USM	£339
EF 100mm f.2.8 USM Macro	£459
EF 100mm f.2.8L Macro IS USM	£869
EF 300mm f.4.0 L IS USM	£1139
EF-S 10-18mm f.4.5-5.6 IS STM	£213
EF-S 10-22mm f.3.5-4.5 USM	£499
EF 11-24mm f.4L USM	£2699
EF-S 15-85mm f.3.5-5.6 IS USM	£649
EF 16-35mm f.2.8L Mk II USM	£1429
<b>New</b> EF 16-35mm f.2.8L III USM	£2099
EF 16-35mm f.4L IS USM	£899
EF-S 17-55mm f.2.8 IS USM	£749
EF-S 18-55mm f.3.5-5.6 IS STM	£199
EF-S 18-135mm f.3.5-5.6 IS STM	£379
EF-S 18-135mm f.3.5-5.6 IS USM	£429
EF-S 18-200mm f.3.5-5.6 IS	£469
EF 24-70mm f.2.8L IS USM II	£1899
EF 24-70mm f.4L IS USM	£799
EF 24-105mm f.3.5-5.6 IS STM	£379
<b>New</b> EF 24-105mm f.4L IS II USM	£1065


**NIKON LENSES**

10.5mm f.2.8 G IF-ED AF DX Fisheye	£619
14mm f.2.8 D AF ED Lens	£1389
20mm f.1.8 G AF-S ED	£659
24mm f.1.4 G AF-S ED	£1829
24mm f.1.8 G AF-S ED	£649
28mm f.1.8 G AF-S	£579
35mm f.1.8 G ED AF-S	£449
40mm f.2.8 G AF-S DX Micro	£259
<b>£234 Inc. £25 Cashback*</b>	
45mm f.2.8 C PC-E Micro	£1499
50mm f.1.4 G AF-S	£359
58mm f.1.4 G AF-S	£1419
60mm f.2.8 AF Micro	£409
<b>£374 Inc. £35 Cashback*</b>	
60mm f.2.8 G AF-S ED	£529
85mm f.1.8 G AF-S	£399
<b>£374 Inc. £25 Cashback*</b>	
105mm f.2.8 G AF-S VR IF ED Micro	£769
<b>£724 Inc. £45 Cashback*</b>	
135mm f.2.0 D AF DC	£1149
180mm f.2.8 D AF IF-ED	£759
300mm f.4.0E AF-S PF ED VR	£1529
500mm f.4.0E FL AF-S ED VR	£8449
600mm f.4.0E FL AF-S ED VR	£10015

10-24mm f.3.5-4.5 G AF-S DX	£745
16-80mm f.2.8-4G ED AF-S DX VR	£899
16-85mm f.3.5-5.6 G ED AF-S DX VR	£579
17-55mm f.2.8 G ED DX AF-S IF	£1349
18-35mm f.3.5-4.5G AF-S ED	£639
18-105mm AF-S DX f.3.5-5.6 G ED VR	£239
18-140mm f.3.5-5.6 G ED AF-S DX VR	£470
18-200mm f.3.5-5.6 G AF-S DX VR II	£649
18-300mm f.3.5-5.6 ED AF-S VR DX	£879

**£814 Inc. £65 Cashback\***

24-70mm f.2.8 G ED AF-S	£1379
24-70mm f.2.8E AF-S ED VR	£1779
24-85mm f.3.5-4.5 AF-S ED VR	£439
24-120mm f.4 G AF-S ED VR	£999

**£914 Inc. £85 Cashback\***

28-300mm f.3.5-5.6 G ED AF-S VR	£829
55-300mm f.4.5-5.6 G AF-S DX VR	£319
70-200mm f.2.8G ED AF-S VR II	£1998
70-300mm f.4.5-5.6 G ED AF-S IF VR	£519

**£474 Inc. £45 Cashback\***

80-400mm f.4.5-5.6 G ED AF-S VR	£2199
200-500mm f.5.6E AF-S ED VR	£1249
<b>£1164 Inc. £85 Cashback*</b>	

**£747 Inc. £75 Cashback\***

200-500mm f.5.6E AF-S ED VR	£1249
500mm f.4.0E FL AF-S ED VR	£8449
600mm f.4.0E FL AF-S ED VR	£10015

**£1399 Inc. £30 Cashback\***

18-200mm f.3.5-6.3 Di II VC	£189
18-270mm f.3.5-6.3 Di II VC PZD	£299
24-70mm f.2.8 Di VC USD SP	£799

**£749 Inc. £50 Cashback\***

28-300mm f.3.5-6.3 Di VC PZD	£599
70-200mm f.2.8 Di VC USD	£1099
150-600mm f.5.6-3.5 DG OS HSM	£829

**£754 Inc. £75 Cashback\***

16-300mm f.3.5-6.3 Di II VC PZD Macro	£429
18-200mm f.3.5-6.3 Di II VC	£189
18-270mm f.3.5-6.3 Di II VC PZD	£299
24-70mm f.2.8 Di VC USD SP	£799

**£399 Inc. £30 Cashback\***

18-200mm f.3.5-6.3 Di II VC	£189
18-270mm f.3.5-6.3 Di II VC PZD	£299
24-70mm f.2.8 Di VC USD SP	£799

**£749 Inc. £50 Cashback\***

28-300mm f.3.5-6.3 Di VC PZD	£599
70-200mm f.2.8 Di VC USD	£1099
150-600mm f.5.6-3.5 DG OS HSM	£829

**£754 Inc. £75 Cashback\***

16-300mm f.3.5-6.3 Di II VC PZD Macro	£429
18-200mm f.3.5-6.3 Di II VC	£189
18-270mm f.3.5-6.3 Di II VC PZD	£299
24-70mm f.2.8 Di VC USD SP	£799

**£399 Inc. £30 Cashback\***

18-200mm f.3.5-6.3 Di II VC	£189
18-270mm f.3.5-6.3 Di II VC PZD	£299
24-70mm f.2.8 Di VC USD SP	£799

**£749 Inc. £50 Cashback\***

28-300mm f.3.5-6.3 Di VC PZD	£599
70-200mm f.2.8 Di VC USD	£1099
150-600mm f.5.6-3.5 DG OS HSM	£829

# Huge range of USED equipment!

100's more USED equipment available online...

Please call to confirm location & availability

## Classic Film Camera Special Edition

### Leica IIIC K

5cm F2 Summar & Case

**USED - EXC+**

Rare military K model from 1943-46, 1 of 7650 with K engraved on top plate & printed on shutter curtain.

**WAS £1500  
NOW ONLY £1250**

**SAVE  
£250**



### Mamiya C330 Pro S & 80mm F2.8

**USED - Mint**

**ONLY £399**

Interchangeable lens twin lens reflex medium format camera.



### Lomography Horizon Kompact

**USED - Mint**

**ONLY £125**

Ultra wide angle panoramic 35mm camera.



### Gossen Lunasix 3 Lightmeter & Tele Attachment

**USED - EXC++**

**ONLY £75**

Traditional design highly accurate lightmeter.



### Minolta X700

& 35-70mm MD

**USED - EXC++**

**ONLY £165**

Popular multi mode 35mm SLR camera.



### Nikon S3 & 5cm F1.4

**USED - EXC+**

**ONLY £1699**

Very rare 1958 35mm rangefinder camera in lovely condition.



### Olympus OM2n & 50mm F1.8 Zuiko

**USED - EXC++**

**ONLY £165**

Classic auto/manual 35mm SLR.



100's more USED equipment available online...



All items thoroughly checked by our experts



Friendly online and phone advice & support



Buy with confidence, 6 months guarantee\*



Huge variety and choice of equipment available

# cameraWORLD

**The Part-Exchange Specialists**

**cameraworld.co.uk**

020 7636 5005 **LONDON**

14 Wells Street (off Oxford St), London W1T 3PB  
sales@cameraworld.co.uk

01245 255510 **CHELMSFORD**

High Chelmer Shopping Ctr, Chelmsford CM1 1XB  
chelmer@cameraworld.co.uk



\*on items over £50, except commission sales. E. & O. E. Goods and delivery services subject to stock and availability. Prices subject to change. Pictures are for illustration purposes only. All prices include VAT @ 20%.

■ *Real Shop*  
■ *Real People*



■ *Real Knowledge*  
■ *Real Cameras*

# www.ffordes.com

#### Fuji X Lenses

14mm F2.8 XF	E++ / Mint- £539 - £549
16-50mm F3.5-5.6 OIS XC	E++ £129
16-55mm F2.8 LM WR XF	Mint- £749
18-135mm F3.5-5.6 OIS WR XF	E++ £549
18-55mm F2.8-4 XF	E++ £349
18mm F2 XF R	E++ £239
23mm F1.4 XF R	E++ / Mint- £599
27mm F2.8 XF	E++ / Mint- £219 - £239
32mm F1.8 Touit X	E++ £359
35mm F1.4 XF R	E++ £299 - £349
50-140mm F2.8 WR OIS XF	Mint- £1,049
50mm F2.8 Touit X Zeiss	Mint- £549
56mm F1.2 R APD XF	Mint- £849
60mm F2.4 XF R Macro	E++ £349
100mm F2.8 ED UMC Macro Samyang	Mint- £279
MCEX-11 Macro Extension Tube 11mm	Mint- £45
MCEX-16 Macro Extension Tube 16mm	Mint- £49

#### Micro 4/3rds Lenses

Panasonic 7-14mm F4 G Vario	E++ / Mint- £549 - £579
12-35mm F2.8 G Vario OIS	E++ £539
12-35mm F2.8 G X Vario OIS HD	E++ £489 - £539
12-60mm F2.8-4.0 Leica DG Vario	Mint- £749
14-42mm F3.5-5.6 Asph OIS	E++ £75 - £129
14-42mm F3.5-5.6 G X Asph OIS	E++ £129
14-45mm F3.5-5.6 ASPH G Vario	E+ / E++ £119 - £129
20mm F1.7 Asph II	Mint- £179
20mm F1.7 G Pancake	E++ £159 - £179
25mm F1.4 DG Summilux	E++ £299
35-100mm F2.8 GX OIS Vario	E++ £629 - £649
35-100mm F4-5.6 OIS Asph G	Mint- £159
45-150mm F4-5.6 Asph OIS	Mint- £129
45-200mm F4-5.6 Lumix G Vario	E+ / E++ £139 - £159
45mm F2.8 DG Asph Macro	E+ £349
100-300mm F4-5.6 G OIS	E++ £279
Olympus 9mm F8 Fisheye Body Cap	E++ £55
12mm F2 ED M.Zuiko	E++ / Mint- £439 - £449
14-42mm F3.5-5.6 EZ M.Zuiko	Mint- £129
17mm f1.8 M.Zuiko Black	Mint- £289
40-150mm F4-5.6 R ED M.Zuiko	Exc / E++ £49 - £89
45mm F1.8 M.Zuiko	Mint- £139
75-300mm F4.8-6.7 ED II M.Zuiko	Mint- £279
75mm F1.8 ED Black M.Zuiko	E++ £529
75mm F1.8 ED Silver M.Zuiko	Mint- £549
Samyang 16mm T2.2 VFD	Mint- £239
21mm F1.4 ED AS UMC CSC	Mint- £199

#### Sony E-Mount Lenses

16-35mm F4 ZA OSS	E++ £799
18-55mm F3.5-5.6 OSS	E+ £79
28-70mm F3.5-5.6 FE OSS	E++ / Mint- £259 - £299
50mm F1.2 AS UMC CS	Mint- £229
50mm F1.8 OSS	Mint- £189

#### Bronica ETRS/Si

ETRSi Complete + AEII Prism	E+ £299
40mm F4 E	As Seen / E+ £79 - £129
45-90mm F4-5.6 PE	E++ £349
100-220mm F4.8 PE	E++ £589
150mm F3.5 E	As Seen / E+ £95 - £109
180mm F4.5 PE	E+ £149
AEII Meter Prism	E++ £89
Prism Finder E	As Seen £20

#### Canon EOS Flashguns

Canon 90EX Speedlite	E+ £49
200E Speedlite	E+ / E++ £9
300EZ Speedlite	E+ / E++ £9 - £29
380EX Speedlite	E+ £49
420EZ Speedlite + Off Camera Cord 2	E+ £35
430EX Speedlite	E+ £109
430EZ Speedlite	E+ / E++ £25 - £29
540EZ Speedlite	E+ / E++ £35 - £39
550EX Speedlite	Exc / E+ £79 - £129
580EX MkII Speedlite	E+ / E++ £169 - £179
580EX Speedlite	E+ / E++ £119 - £149
600EX-RT Speedlite	Mint- £329 - £349
MR-14EX Macro Ringlite	E+ £169
ST-E2 Transmitter	E+ / E++ £59 - £69
ST-E3 RT Transmitter	Mint- £149 - £159
Metz 15 MS-1 Wireless Digital Macro Flash	E++ £149 - £179
48AF1 Digital	E+ £79
50AF1 Digital	E++ £79
58AF1 Digital Canon	E++ £139

#### Canon EOS Lenses

10-18mm F4.5-5.6 EFS IS STM	Mint- / Unused £169 - £179
10-24mm F3.5-4.5 Di II LD Asph Tamron	Mint- £259
11-16mm F2.8 DX ATX Tokina	Mint- £279 - £299
11-24mm F4 L USM	E++ £2,349
14mm F2.8 L USM II	E+ / Mint- £899 - £989
15-85mm F3.5-5.6 IS USM	E+ / E++ £379
15mm F2.8 EF fisheye	E++ £449
16-28mm F2.8 ATX FX Tokina	E++ £439
16-35mm F2.8 L USM MKII	E++ £849 - £1,049
17-85mm F3.5-5.6 IS USM	As Seen / E++ £89 - £139
18-135mm F3.5-5.6 IS	E++ £199 - £229
18-200mm F3.5-6.3 Di II VC Tamron	Mint- £149
18-55mm F3.5-5.6 EFS IS	E++ £69
18-55mm F3.5-5.6 IS STM	E++ £79
18mm F3.5 ZE Zeiss	E++ £699
20mm F2.8 USM	As Seen £99
21mm F2.8 ZE Zeiss	E+ / E++ £849 - £989
24-70mm F2.8 L USM	E+ / E++ £499 - £599
24-70mm f2.8 L USM II	Mint- £1,449
24-70mm F4 L IS USM	E++ £599
24mm F1.4 L USM MKII	E++ / Mint- £1,099 - £1,149
24mm F2.8 STM	Mint £109
24mm F3.5 L TSE	E+ £599
25mm F2 ZE Zeiss	E++ £949
28-300mm F3.5-6.3 Di VC PZD Tamron	Mint- £429
28-300mm F3.5-6.3 XR Di Tamron	E+ £89
28-80mm F2.8-4 L USM	E+ £349
28-90mm F4-5.6 USM II	E+ £39
35-80mm F4-5.6 EF	E+ £25
40mm F2 Ultron SLII Voigtlander	Mint- £299
45mm F2.8 TS-E	Exc £549
50mm F1.4 ZE Zeiss	E+ / E++ £389 - £429
55-250mm F4-5.6 EFS IS	E++ £99
55-250mm F4-5.6 IS STM	Mint- £129
60mm F2.8 EFS Macro	E++ £249 - £279
70-200mm F2.8 L IS USM	E+ £749
70-200mm F2.8 L IS USM II	E++ £1,449
70-200mm F4 L USM	E++ £359
70-200mm F4 L USM + AWII Collar	E++ £399
70-300mm F4-5.6 Di Tamron	E++ £59
70-300mm F4-5.6 L IS USM	E++ £789
70-300mm F4.5-5.6 DO IS USM	E+ / E++ £349
75-300mm F4-5.6 EF III	Mint- £99
85mm F1.4 ZE	E++ £649
90mm F2.8 TSE Shift	E++ £789
200-400mm f4 L IS USM with Internal 1.4x Extender Lens	E++ / Mint- £9,499
300mm F2.8 ATX SD Tokina	E+ £599
300mm F2.8 L IS USM	Exc / E++ £1,789 - £2,589
300mm F4 L IS USM	E+ / E++ £599 - £689
300mm F4 L IS USM	Exc £389
500mm F4 L IS USM	E+ £3,499 - £3,599
600mm F4 L USM	E+ £2,849

#### Contax SLR

N1 Body Only	E++ £249
Preview Body Only	E++ £249
RTS2 Body Only	E+ £129
RTS Body Only	Exc £99
167MT Body + P5 Batt Holder	E+ £79
28-70mm F3.5-4.5 MM	E+ / Mint- £249 - £279
28-80mm F3.5-5.6 AF	Unused / New £349 - £399
45mm F2.8 AE	E+ £149
45mm F2.8 MM	E++ £199
70-200mm F4-5.6 AF	E++ £449
70-300mm F4-5.6 AF	E++ / Unused £399 - £649
80-200mm F4 MM	E+ £199
135mm F2 (60 Year Edition)	Unused £2,399
135mm F2.8 MM	E+ / E++ £169 - £189
180mm F2.8 AE	Unused £549
180mm F2.8 MM	E+ £349
200mm F3.5 AE	E+ / E++ £129 - £149
200mm F4 AE	E+ / Unused £179 - £449
300mm F4 AE	E+ £249

#### Digital SLR Cameras

Canon EOS 1D MkII Body Only	As Seen / E+ £199 - £299
EOS 1D MKIV Body Only	E+ / E++ £999 - £1,499
EOS 1DS MkII Body Only	E+ £449
EOS 300D + 18-55mm	Exc / E+ £79 - £99
EOS 300D + BG-E1 Grip	As Seen £49
EOS 300D Body Only	As Seen £39
EOS 350D Body Only	E+ £89
EOS 450D Body Only (IR Converted)	As Seen £159
EOS 550D Body Only	E+ £169
EOS 5D MkII Body + BG-E6 Grip	E+ £789
EOS 5D MKIII Body Only	E+ / E++ £1,499 - £1,599
EOS 6D Body Only	E+ / E++ £869 - £949
EOS 70D Body Only	E+ / Mint- £579 - £599
EOS M Body Only + EF-EOS M Adapter	Mint- £289

Nikon D100 + MB-D100 Grip	As Seen £79
D200 Body Only	Exc / E++ £129 - £179
D2X Body Only	As Seen / E+ £249 - £299
D300S + MB-D10 Grip	E+ £319
D300S Body Only	E+ £279

Digital Compact Cameras	
Canon Ixus 80 IS	E++ £29
Powershot SX240 HS	E+ £79
FujiFilm X100T - Silver	Mint- £689
Finepix X10 Black	E+ £159
Finepix X100 Silver	E+ £299

|<td
|  |



Prices  
correct  
when  
compiled.  
E&OE.

**T: 01463 783850**  
**E: info@ffordes.com**

**Largest Used Equipment *Specialists* Since 1960**

**Mamiya RB67 & RZ67**

RB67 Pro Complete.....	As Seen £199
Pro S Complete + Prism.....	As Seen £299
ProSD Gold Edition.....	Mint- £799
65mm F4 KL.....	E++ £249
140mm F4.5 Macro KL ML-A.....	Mint- £199
180mm F4.5 C.....	E+ £99
180mm F4.5 KL-A.....	E+ / Mint- £149 - £169
250mm F4.5.....	As Seen £79
Prism Finder Model 2.....	E++ £79
ProS 120 Mag (6x4.5cm).....	E+ £59
ProS 220 Mag.....	E++ £145
RZ67 Pro Body Only.....	E+ £159
50mm F4.5.....	Exc / E+ £129 - £149
75mm F4.5 Shift W.....	As Seen / E+ £250 - £399
100-200mm F5.2 W.....	E+ £349
150mm F3.5 W.....	E+ £129
180mm F4.5 WN.....	E+ £99
250mm F4.5.....	Exc £79

**Sony AF Lenses**

8mm F3.5 Aspherical IF MC Samyang.....	Mint- £169
17-35mm F2.8-4 EX Sigma.....	E++ £119
17-70mm F2.8-4 DC OS Macro Sigma.....	E+ £199
18-250mm F3.5-6.3 DT.....	E++ £279
18-125mm F3.5-5.6 DC Sigma.....	E+ £79
20mm F1.8 EX DG Sigma.....	E++ £260
24-70mm F2.8 Di VC USD Tamron.....	Mint- £499 - £539
24mm F1.4 ED AS UMC Samyang.....	E++ £329
28mm F1.8 Asph Sigma.....	Exc £139
35mm F1.4 AS UMC Samyang.....	E++ £279
50mm F1.4 AF.....	As Seen / E++ £79 - £179
50mm F1.8 DT.....	E+ / E++ £45 - £59
55-200mm F4-5.6 DT.....	E+ / E++ £49 - £59
55-200mm F4-5.6 DT SAM.....	E++ / Mint- £59 - £69
55-300mm F4-5.6 DT SAM.....	Mint- £189
60mm F2 Di II (if) Macro Tamron.....	New £269
70-300mm F4-5.6 Di Tamron.....	E+ / E++ £39 - £49
70-300mm F4.5-5.6 AF.....	E+ £59
70-300mm F4.5-5.6 G SSM.....	E++ £449
70-400mm F4-5.6 G SSM II.....	Mint- £1,389
75-300mm F4.5-5.6 AF.....	E++ £89
85mm F1.4 ZA.....	E+ / Mint- £819 - £849
85mm F2.8 SAM.....	Mint- £125
Original Lens Baby.....	E++ £35
100mm F2.8 D Macro.....	E++ £389
105mm F2.8 EX DG Macro Sigma.....	E++ £199
300mm F2.8 Apo EX Sigma.....	E++ £1,229
500mm F8 Reflex.....	E++ £449

**Nikon AF**

F6 Body + MB40 Grip.....	Mint- £1,099
F5 Body Only.....	E++ £349
F90 Body Only.....	As Seen £39
F80 Chrome Body Only.....	As Seen £29
F801S Body + MF21 Back.....	E+ £59
F601 Body Only.....	E++ £35
10-24mm F3.5-4.5 G AFS DX.....	E++ £549
12-24mm F4 ATX PRO SD Tokina.....	E++ £299
12-24mm F4 G AFS DX ED.....	E++ £379
12-28mm F4 ATX PRO SD Tokina.....	Mint- £279
14-24mm F2.8 G AFS ED.....	E+ £799
16-35mm F4 G AFS ED VR.....	E++ £689
16-80mm F2.8-4 E VR N.....	Mint- £679 - £739
16-85mm F3.5-5.6 G ED VR AFS DX.....	E+ / E++ £239 - £279
16mm F2.8 D AF Fisheye.....	E++ £449
17-35mm F2.8 ED AFS.....	E+ £489
17-50mm F2.8 XR Di II Tamron.....	E+ £159
17-55mm F2.8 G AFS DX IFED.....	E+ £359
18-105mm F3.5-4.5 G AFS ED DX VR.....	E+ / Mint- £129 - £139
18-140mm F3.5-5.6 AF-S G ED VR DX.....	Mint- £259
18-200mm F3.5-5.6 G AFS DX VR.....	E++ £279
18-35mm F3.5-4.5 AFD.....	E++ £229 - £239
18-55mm F3.5-5.6 G AF-P DX.....	Mint- / Mint £59 - £79
18-55mm F3.5-5.6 G AFS VR II.....	Mint- £79
200mm F4 ED AFD Micro.....	E++ £949
24-120mm F3.5-5.6 ED AFD.....	Exc / E++ £99 - £159
24-70mm F2.8 G AFS ED.....	E+ £749
24-70mm F3.5-5.6 IX.....	E+ £39
24-85mm F2.8-4 AFD.....	E++ £269
24mm F2.8 AFD.....	E++ £229
24mm F3.5 ED PC-E.....	E+ / E++ £989 - £1,089
28-100mm F3.5-5.6 AFG.....	E++ £49

**FUJIFILM**

**BUY A FUJI X-PRO2  
BODY WITH**

**35MM F2 XF WR  
OR 23MM F2 XF WR**

**+ £100 PX BONUS  
ON TRADE IN OF DSLR  
CONTACT FFORDES FOR DETAILS**



**FREE  
FUJI 50MM  
F2 XF WR  
WORTH £450**

OFFER ENDS  
**31 JULY**

**OLYMPUS**

**OM-D E-M1 MKII**

**CLAIM £200  
PART EXCHANGE BONUS**

TERMS AND CONDITIONS APPLY AS BELOW



£200 PX Bonus when you part-exchange any working  
35mm Film Camera / Digital SLR /  
Micro System / Medium Format Camera  
for a new Olympus OM-D E-M1 MKII Body or Kit.

Subject to Terms and Conditions  
PX BONUS is over and above  
Ffordes quote for equipment.

Value is deducted at the till, no claim back required.

**FUJIFILM**

**BUY A FUJI X-T2  
BODY OR KIT**



**£200 PX BONUS  
ON TRADE IN  
OF ANY WORKING DSLR  
CONTACT FFORDES FOR DETAILS**

**+  
HALF PRICE  
VPB-XT2  
VERTICAL GRIP  
NOW £149.49**

**The ORIGINAL commission sale specialists. We also PART EXCHANGE and BUY FOR CASH**



# londoncameraexchange

## VISIT YOUR LOCAL LCE FOR

### CANON EOS M3

& 15-45MM IS STM LENS

The EOS M3 delivers the performance of a DSLR and the portability of a compact camera. Be ready for stories wherever you are.

**£389.99\***

\*After CashBack, you pay £419.99.

**£30  
CASH  
BACK**



### CANON EOS 1300D

& 18-55MM IS II LENS

Effortlessly capture distinctive DSLR quality pictures and cinematic Full HD movies using the 18.0 Megapixel EOS 1300D.

**£349.99\***

\*After CashBack, you pay £369.99.

**£20  
CASH  
BACK**

**FREE  
BG-E20  
GRIP**

**12 MONTHS  
INTEREST  
FREE  
CREDIT**



**£334.99**

### CANON EOS 750D

& 18-55MM IS II LENS

Effortlessly capture exceptional pictures with 24.2 MP sensor, DSLR technology and Scene Intelligent Auto.

**£529.99\***

\*After CashBack, you pay £599.99.

**£70  
CASH  
BACK**



### CANON EOS 5D IV

BODY ONLY

No matter what you're shooting, be assured of uncompromising image quality and a thoroughly professional performance.

**£334.99**

**£45  
CASH  
BACK**

**FREE  
HALF  
CASE**

**£100  
TRADE-IN  
BONUS**



### NIKON D3400

& 18-55MM F/3.5-5.6G VR AF-P

The D3400 makes it spectacularly easy to shoot and share DSLR-quality images.

**£394.99\***

\*After CashBack, you pay £439.99.

**£45  
CASH  
BACK**



### NIKON D5600

& 18-55MM F/3.5-5.6 VR AF-P

Equipped with a large 24.2 megapixel DX-format image sensor, the D5600 is capable of sharply capturing superbly crisp detail.

**£634.99\***

\*After CashBack, you pay £679.99.

**£45  
CASH  
BACK**

**FREE  
HALF  
CASE**

**£100  
TRADE-IN  
BONUS**



### FUJIFILM X-PRO2

BODY ONLY

The FUJIFILM X-Pro2 offers the world's only Hybrid Multi Viewfinder and features a brand new 24MP X-Trans III sensor

**£1349.99**

**HALF  
PRICE  
GRIP**

**£100  
TRADE-IN  
BONUS**



### FUJIFILM X-T2

& XF 18-55MM LENS

Unparalleled image quality and outstanding 4K movie recording, made possible by the latest sensor and processing engine.

**£1649.99**



## PART EXCHANGE WELCOME

Upgrading - we want your old cameras and photographic equipment!

- EXPERIENCED KNOWLEDGEABLE STAFF
- TOP PRICES PAID
- FILM OR DIGITAL EQUIPMENT CONSIDERED
- QUALITY EQUIPMENT BOUGHT OUTRIGHT!

Ask us today and see how much your old equipment is worth - it may be worth more than you think!

SEARCH OUR USED EQUIPMENT AT:

[www.LCEgroup.co.uk](http://www.LCEgroup.co.uk)  

## THE LATEST CAMERA OFFERS



### OLYMPUS OMD EM5 II BODY ONLY

Built-in 5-Axis VCM IS compensates for every possible blur. It even delivers a clear image in the viewfinder for stable framing.

**£764.99\***

\*After CashBack, you pay £849.99.



### OLYMPUS OMD EM10 II & 14-150MM MKII LENS

A camera that fits your discerning style and is the perfect companion to take everywhere you go.

**£639.99\***

\*After CashBack, you pay £699.99.



### SONY A6300 & 16-50MM PZ OSS LENS

an APS-C mirrorless camera that takes autofocus and performance to astonishing new heights.

**£849.99\***

\*After CashBack, you pay £999.99.



### SONY A7 MKII & FE 28-70MM OSS

Full-frame quality and cutting-edge camera shake compensation compatible with wide-ranging lenses.

**£1449.99\***

\*After CashBack, you pay £1549.99.

\*Trade-in bonus T's & C's Apply, ask in-store.

### TAMRON SUMMER CASHBACK

SP 24-70mm f2.8 Di VC USD ..... Claim £50.00  
16-300mm f3.5-6.3 Di II VC PZD MACRO ..... Claim £30.00  
SP 150-600mm f5-6.3 Di VC USD ..... Claim £75.00  
SP 150-600mm G2 f5-6.3 Di VC USD ..... Claim £100.00

**£1239.99\***  
150-600mm G2  
16-300mm Di II VC PZD  
**£399.99\***

Save up to **£100** on selected lenses

\*After CashBack, you pay £1339.99 / £429.99

### New SONY A9

**£4499.99**

**IN STOCK NOW!**

### SONY RX100 MKIII EXCLUSIVE KIT!

Includes LCS-RXG Black Soft Leather Carry Case + AG-R2 Attachment Grip

**£524.99\***

**£75 CASH BACK**

\*After CashBack, you pay £699.99.

**BATH**  
01225 462234

**BRISTOL (BALDWIN ST)**  
0117 929 1935

**BRISTOL (BROADMEAD)**  
0117 927 6185

**CHELTENHAM**  
01242 519 851

**CHICHESTER**  
01243 531536

**CHESTER**  
01244 326531

**COLCHESTER**  
01206 573444

**DERBY**  
01332 348644

**EXETER**  
01392 279024

**GLoucester**  
01452 304513

**GUILDFORD**  
01483 504040

**HEREFORD**  
01432 272655

**LEAMINGTON**  
01926 886166

**LINCOLN (HIGH ST)**  
01522 528577

**LINCOLN (SILVER ST)**  
01522 514131

**LONDON (STRAND)**  
0207 3790200

**MANCHESTER**  
0161 834 7500

**NEWCASTLE**  
0191 213 0060

**NORWICH**  
01603 612537

**NOTTINGHAM**  
0115 941 7486

**PLYMOUTH**  
01752 664894

**PORTSMOUTH**  
023 9283 9933

**READING**  
0118 9592149

**SALISBURY**  
01722 335436

**SOUTHAMPTON (CIVIC CTR)**  
023 8033 1720

**SOUTHAMPTON (HIGH ST)**  
023 8022 1597

**TAUNTON**  
01823 259955

**WINCHESTER**  
01962 866203

**WORCESTER**  
01905 22314

**OPENING TIMES:**  
Monday—Saturday  
9am—5:30pm

**BRANCHES NATIONWIDE**

**UK MAIL ORDER** Next day delivery available from all LCE branches. Postage & Insurance £4.99 for most items.  
E. & O. E. Prices quoted include VAT @ 20%. Prices subject to change. Goods subject to availability.

# Unwanted camera gear in the attic?

...or, cupboards, under the stairs, behind the sofa. Why not **sell them to us** for extra spending money. We buy all sorts of photographic equipment – digital or film cameras, autofocus and manual lenses, camera bags, tripods and accessories – it's SO easy & fast!

## Get in touch

Give us a call and have a chat or fill out our simple form at [www.cameraworld.co.uk/used](http://www.cameraworld.co.uk/used)

## Get free pick-up

Pop it in the post or we can collect it when convenient (dependant on value).

## Get paid fast

Take advantage of one of our super Trade-Up Offers, or just take the money & ENJOY!



**We buy more | We pay more | We smile more**

Just call or email us for expert valuation and advice: **01245 255510** Email: [chelmer@cameraworld.co.uk](mailto:chelmer@cameraworld.co.uk)

### WHAT OUR CUSTOMERS SAY:

“

Thank you CameraWorld for confirming that the great customer experience is alive and kicking in the high street!

Scott D | 10.11.16

”

Thank you so much for your excellent help and support with choosing a new camera... Absolutely brilliant shop.

Alan H | 09.03.17

The sales assistant, Jordy, was extremely helpful, offering unbiased and useful advice...

I could not have asked for a better level of service.

Kevin G | 05.03.17

100'S MORE ONLINE AT: [www.cameraworld.co.uk/testimonials](http://www.cameraworld.co.uk/testimonials)

# camerawORLD

***The Part-Exchange Specialists***

**camerawORLD.co.uk**

020 7636 5005 **LONDON**

14 Wells Street (off Oxford St), London W1T 3PB  
[sales@camerawORLD.co.uk](mailto:sales@camerawORLD.co.uk)



01245 255510 **CHELMSFORD**

High Chelmer Shopping Ctr, Chelmsford CM1 1XB  
[chelmer@camerawORLD.co.uk](mailto:chelmer@camerawORLD.co.uk)



# DÖRR

The Combi 3-in-1 Backpack  
adapts to your needs:

- 1) The **Photo Backpack** for longer photo tours offers space for your photo gear and everything else you need to take with you
- 2) The **lightweight Outdoor Backpack** is great for nature hikes and leisure time
- 3) The **Photo Shoulder Bag** is for when you only need your photo gear

The photo bag in the backpack serves as a photo compartment with quick lateral access. Using the supplied strap, the bag turns quickly into a shoulder photo bag

*Combi 3-in-1 backpack & Shoulder Bag*



Removing the photo bag and internal divider, the combi backpack becomes a regular outdoor backpack

VISIT OUR  
WEBSITE FOR  
YOUR LOCAL  
STOCKIST





RATED EXCELLENT (9.5/10) ON TRUSTPILOT



Our ambassador **Ben Read**,  
shooting on his **Canon EOS 5D III**

# REDEFINING THE WAY YOU BUY, SELL AND TRADE YOUR GEAR



5 star  
customer service



16 point system  
for grading equipment



Six month warranty  
on used products



Super fast payment  
for sellers



True market value  
when buying or selling

#MYMPB



SIMPLE SELLING • FREE COLLECTION • 16 POINT EQUIPMENT GRADING SYSTEM • SUPER FAST PAYMENT  
FIVE STAR CUSTOMER SERVICE • TRUE MARKET VALUE WHEN BUYING OR SELLING • SIX MONTH WARRANTY

[www.mpb.com](http://www.mpb.com)

EXPERIENCE BETTER

UK: 0330 808 3271 • US: 646-513-4309 • [@mpbcom](http://@mpbcom)

# Amateur Photographer CLASSIFIED

## Accessories

### Photographic Backgrounds

Hard wearing • Low crease • Washable



10 COLOURS INC BLACK, WHITE & CHROMA COLOURS



20 COLOURS. SPECIAL OFFER: 8 x 12 CLOUDED - 2 FOR £80 OR 3 FOR £115

01457 764140 for free colour brochure or visit [www.colourscape.co.uk](http://www.colourscape.co.uk)

## Black & White Processing

Professional B/W Colour Printing.  
Hand Processing all types of films from 35m-5x4  
Develop and Contacts £6.50 each  
2 or more film £5.50 each  
Develop, 5x7s @ £15 per roll  
All printed on genuine b/w, colour papers.  
Phone for price list of all services:  
**01442 231993**  
Send cheque + £2 pp  
All work sent back recorded delivery  
Karl Howard, 16 Chalfont Close,  
Hemel Hempstead, Hertfordshire, HP2 7JR

## Wanted

**Peter Loy**  
COLLECTABLE CAMERA SPECIALISTS



**CAMERA COLLECTIONS  
WANTED**

Call us: 020 8867 2751  
We can come to you (UK & Europe)

[www.peterloy.com](http://www.peterloy.com)

**Amateur  
Photographer**

## Camera Fairs

### CAMERA FAIR GUILDFORD

Sunday 18th June, 10.30am-2pm.

St Peters Catholic School,  
Horseshoe Lane East, Merrow, GU1 2TN.

2 miles East town centre, A25 towards

Dorking. Close junc.10 M25 and A3

Admission. Earlybird 9.15am £4.

After 10.30am £2. Refreshments.

Details Peter Levinson

Tel: 020 8205 1518

## Camera Fairs

### Wolverhampton Camera Fair Sunday, 2nd July

8.30am – 2.00pm. Wolverhampton Racecourse,  
Dunstall Park, Gorsebrook Road, Wolverhampton WV6 0PE

Featuring a huge range of photographic equipment including both digital and film cameras, vintage and collectable cameras, as well as a large selection of lenses, accessories, flash, filters, tripods, cases, film, darkroom supplies, etc. etc.

Many bargain tables with prices starting at under £2

Several major dealers attend every event. There's cash waiting for your old and unwanted equipment, so bring it along to sell or part exchange.

[www.camfair.co.uk](http://www.camfair.co.uk)



## Cameras For Sale



### Equipment to sell?

Great news! The global market for quality digital and film cameras, lenses and accessories is stronger than ever!

With our worldwide network of customers we're paying the highest prices for **Nikon, Canon, Leica, Fuji, Contax, Olympus, Panasonic, Sony, Zeiss, Voigtlander, Konica, Minolta, Sigma, Tamron, Tokina, Hasselblad, Pentax, Bronica, Mamiya** and other top-quality brands.

#### Free Collection

Contact Jonathan Harris for an immediate quote:  
[info@worldwidecameraexchange.co.uk](mailto:info@worldwidecameraexchange.co.uk)  
or phone 01277 631353

#### Same-day Payment

**Looking to buy?** Please visit our website:  
[www.worldwidecameraexchange.co.uk](http://www.worldwidecameraexchange.co.uk)

#### ★★ SPECIAL OFFERS ★★ CLEARANCE OFFERS ★★ END OF LINES ★★

<b>STEP-UP RINGS</b> £1.75 each 27/28, 27/37, 28/30.5, 28/37, 30.5/49, 34/37, 34/43, 34/46, 37/46, 37/55, 37.5/40.5, 38/49, 38 1/52, 38 1/58, 43/46, 46/52, 46/55, 46/58, 48/58, 49/52, 49/55, 49/58, 49/62, 52/58, 52/62, 52/72, 55/58, 58/62, 62/67, 62/72, 62/77, 67/77, 72/82, 95/105 £3.99 Hass B50/52	<b>CANON AUTOFOCUS LENSES</b> Canon EF 70/210mm f4 £29.95 Sigma 100/300mm f4.5/f6.7 and Lens Hood £29.95	<b>OLYMPUS E400 KIT</b> - E400 Body, 14/42mm OM Lens, 40/150mm OM Lens, Charger, Battery & Instructions (excellent condition) £139.95
<b>CLIP-ON LENS CAPS</b> £1.75 each 39, 40.5, 43, 46, 49, 52, 55, 58, 62, 67, 72, 77, 82, 86mm	<b>NIKON AI LENS</b> 28/70mm f3.5/4.5 Kiron £18.95 Nikon Rear Lens Cap £1.75	<b>S/H CANON DIGITAL SLRs</b> Boxed Canon D60 Body, Battery, Charger and Instructions £94.95
<b>LINEAR POLARIZING FILTERS</b> to clear (for Manual Focus only) 49, 55, 58, 67, 72mm 99p each	<b>NIKON AF LENSES</b> Nikon ED-AF Nikkor 70/300mm f4/5.6 D, Sky & Case £79.95 Nikon ED-AF-VR - Nikkor 80/400mm f4/5.6 - D-VR, Skylight Hood & Case £899.95 Nikon AF-S Micro Nikkor 105mm 2.8 G-ED-VR & Case £299.95 Nikon DR-6 R/A Finder £89.95 Nikon Bellows PB6 £89.95 Nikon Lead SC23 £24.95	<b>S/H SONY A200 BODY, 18/55mm</b> Sony Zoom Lens, Skylight Filter, Battery, Charger & Case £119.95
<b>New CIRCULAR POLARIZERS</b> 27, 30.5mm £2.99 each 46, 49, 52, 55mm £5.99 each	<b>CANON FD FIT LENSES</b> 25/50mm f4 Tokina £9.95 35/70mm f3.5 Tokina £6.99 80/200mm f4.5 Makinon £6.99 70/300mm f4.5/5.6 Mirada £14.95 2X Converter and Case £3.99 Set of 3 Extension Tubes £4.95 New T2 Mount for Canon FD £1.49	<b>S/H CANON 35mm AF SLRs</b> EOS 500N Body £11.99 1000FN Body £12.95 300 Body £13.95
<b>NEW HOYA MULTI-COATED SLIM DIGITAL UV FILTERS</b> 46mm £6.95 55mm £9.49	<b>OLYMPUS FIT LENSES</b> Mirada 28mm f2.8 £6.99 Vivitar 28/210mm f3.5/5.6 £22.50 Mitsuki 70/150mm f4 £5.95 Mitakon 75/150mm f3.5 £7.95 Makinon 80/200mm f4.5 £6.95 2X Converter & Case £3.95	<b>BANKRUPT STOCK FILTERS</b> All one price - £1.99 each 49mm 4 Star, 6 Star, 82A, 80A, 80A, 80B, 81A, FLW, UV, Skylight, Yellow Starburst, Softener, Yellow/ Green
<b>WIDE ANGLE LENS HOODS</b> 49, 52, 55mm (rubber) £6.49 58, 62, 67mm (rubber) £7.49	<b>REVERSE ADAPTERS</b> £2.99 ea M42 to 49mm, 52mm, 55mm Olympus to 49mm Minolta MD to 52mm, 55mm Yashica/Contax 50/52mm, 55mm Canon FD to 52mm, 55mm Pentax PK to 52mm, 55mm	<b>49mm</b> 4 Star, 6 Star, 82A, 80A, 80B, 80C, 82B, 81A, 80A, 80B, 80C, Softener, Close-up +1, FLW, FLD
<b>RUBBER LENS HOODS</b> 46, 49, 52, 55mm £3.99 each 58, 62, 67, 72mm £5.35 each 77mm £7.99 82mm Metal £8.99	<b>OLYMPUS FIT LENSES</b> Mirada 28mm f2.8 £6.99 Vivitar 28/210mm f3.5/5.6 £22.50 Mitsuki 70/150mm f4 £5.95 Mitakon 75/150mm f3.5 £7.95 Makinon 80/200mm f4.5 £6.95 2X Converter & Case £3.95	<b>55mm</b> 80A, 85, 85A, 81B 82B, 85B, 82C, 85C, Sky 1B, 4 Star, Yellow, Green, Orange, Softener, FLW, Fog, Split Field
<b>LAST FEW NEW 82mm FILTERS</b> Red, 4 Star, 80B £9.95 each	<b>PENTAX K FIT LENSES</b> Hanimex 28mm f2.8 £6.99 Tokina 28/70mm f3.5/f4.5 £14.95 Pentax-A 28/80mm PKA £22.50 Pentax-M 50mm f2 £13.95 Tokina 70/210mm f4/f5.6 £14.95 Sunagor 80/200mm f4.5 £8.95 Starblitz 2X Converter £3.99 New boxed Vivitar 2X macro Converter (retail £57.50) £18.95 Pentax FA 28/105mm f4/f5.6 Lens Hood (excellent) £39.95	<b>58mm</b> Pastel Magenta, Skylight Pastel Cerise, Centre Spot, 82C, 80C, Fog, Close-up +1, +2, +3
<b>NEW BINOCULARS to clear</b> 8x21 Acuter Monocular £6.99 8x21 Roof Prism & Case £9.95 very compact (£29.95) £9.95 Opticron 10x25 Adventurer 3 £29.95 and case (£69.95) £47.95 Hawke 10x25 Waterproof Bak 4 Prisms (retail £92.50) £47.95	<b>CAMERA ADAPTERS</b> Canon AF to Nikon £8.95 Nikon to OM 4/3 £6.99 Olympus to M42 Screw £6.99 Canon AF to M42 Screw £4.99	<b>PENTAX</b> 28mm f2.8 £6.99 Tokina 28/70mm f3.5/f4.5 £14.95 Pentax-A 28/80mm PKA £22.50 Pentax-M 50mm f2 £13.95 Tokina 70/210mm f4/f5.6 £14.95 Sunagor 80/200mm f4.5 £8.95 Starblitz 2X Converter £3.99 New boxed Vivitar 2X macro Converter (retail £57.50) £18.95 Pentax FA 28/105mm f4/f5.6 Lens Hood (excellent) £39.95
<b>BATTERY CLEARANCE</b> PX625 1.5v £2.99 23A 12v 79p V76PX £1.49 27A 12v 49p CR2 Lithium £3.99 2CR5 £4.99 CR2032 3v Lithium 79p	<b>S/H NIKON D50 BODY</b> including Battery Charger & Case £74.95	<b>TAMRON LENS – NO MOUNT</b> 80/210mm f3.8 £6.95

Mail Orders by return, ask  
for Trish, Dave or Dennis

Tel: 0161 336 4603

Mail order 10am to 5pm MON-SAT

**DENTON  
PHOTO  
OPTICS**

SHOP OPEN  
WED/THURS/FRI  
11am - 3.30pm  
[www.dentonphoto.co.uk](http://www.dentonphoto.co.uk)



67 Manchester Road  
Denton, Manchester  
M34 2AF  
[norton.d@btconnect.com](mailto:norton.d@btconnect.com)



# Final Analysis

**Roger Hicks considers...**

‘Mohammed’, 2015, by Magnus Wennman



© MAGNUSWENNMAN

**‘We have long been conditioned to the idea that grainy, blurry black & white images are somehow more “authentic” than technically excellent pictures’**

**I**t's another lazy teenager on his bed. Except that it isn't. And the colour, the muddy blue: that would be enough to be heavily criticised by the average online critic. Until, perhaps, they learn the story. Or look closely at the picture.

There's a sticking plaster on his arm, in the usual place where they take blood samples. It's a hospital bed. And the windows are barred: elegantly barred, but nonetheless barred. Is this to stop people outside from breaking in, or to stop the people inside from getting away?

Mohammed is 13 years old and comes from Aleppo in Syria. This is Nizip in Turkey. He is a refugee. He wanted – still wants, perhaps,

though ambitions change at that age – to be an architect. So did I at his age. Later, I wanted to be a psychiatrist. Then I read law, and ended up as a photographer and journalist. The thing is, I had a lot more options than Mohammed, which is why, although I have just been writing about me, this is not about me: it's about him.

Mohammed is not sure if he will be able to become an architect. Well, few of us are sure about anything at that age – but again, many of us have better prospects. As he says: ‘The strangest thing about war is that you get used to feeling scared. I wouldn't have believed that.’

The relationship between words and pictures is a curious one. For

example, Capa's immortal ‘Falling Soldier’ changes its meaning according to what we understand or believe about it. In one sense, the man in the image stands in for every casualty ever, in any war: the ‘universal soldier’. Knowing that he was a Loyalist changes our perception slightly. Knowing Capa's political sympathies changes it again. And while its impact is not changed if (as is often alleged) it was faked, faking would still change the way we feel about it. My own view is that it probably wasn't faked, but how can we know?

In fact, this isn't just about the relationship between words and pictures. It plunges into the question of words, pictures, truth and photographic technique.

Would this picture be more or less convincing if it were exquisitely lit with perfect colour balance? We have long been conditioned to the idea that grainy, blurry black & white images are somehow more ‘authentic’ than technically excellent pictures. Often they are. But they needn't be. They can be faked too. Do technical ‘flaws’ add ‘authenticity’?

This image is from Wennman's book about refugees called *Where the Children Sleep*, published by Kehrer Verlag. I chose it because of its very ordinariness; or at least, the ordinariness we see superficially. But when we know the stories behind them, even ordinary pictures can cease to be ordinary.

AP

**Roger Hicks** has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz (visit his new website at [www.rogerandfrances.eu](http://www.rogerandfrances.eu)). Every week in this column Roger deconstructs a classic or contemporary photograph. **Next week he considers an image by Marc Erwin Babej**



## Up to £85 cashback on selected Olympus Cameras and Lenses

### OLYMPUS OM-D E-M10 Mark II



#### AMAZING OM-D IMAGE QUALITY

Experience the exceptional resolution and astounding detail captured by the OLYMPUS Micro Four Thirds sensor and advanced image capture technology that rival those of D-SLR cameras.



#### LIVE COMPOSITE MODE

Shoot beautiful night-time and low-light compositions with the Live Composite mode. Here you can actually see the image build up on the screen as the picture is taken - giving you full freedom of how to expose for low-light static shots.



#### 4K TIME LAPSE

Create amazing movies with brilliant details using the Time Lapse mode to shoot a series of images over time which can then be recompiled into a 4K movie where time appears to have been sped up.



£60  
cashback

16.0  
Mega  
Pixels  
8.5  
FPS  
3.0"  
IS  
1080p

Body only  
£419.00\*  
+14-42 EZ  
£509.00\*  
Twin lens kit  
£619.00\*

\*Prices shown after £60 cashback from Olympus UK.  
Offer ends 15.07.17. T&Cs apply.

Visit [www.parkcameras.com/olympus-summer-cashback](http://www.parkcameras.com/olympus-summer-cashback)  
for the range of Cameras and Lenses available

### Olympus E-M5 Mark II

With its classic looks, compact design, 40-Megapixel composite mode and hardy body, this is a fantastic compact system camera that will allow you to get creative with your photography or videography that you can take with you anywhere!

Body only  
£764.00\*  
+ 12-50mm  
£864.00\*  
+12-100mm  
£1,714.00\*



£85  
cashback

\*Prices shown after £85 cashback from Olympus UK. Learn more in store, online or by calling our team on 01444 23 70 60. Offer ends 15.07.17. T&Cs apply.

### Olympus 17mm f/1.8

This lens provides a large, ultra-bright f/1.8 aperture for tripod-free shooting in low-light conditions as well as the unique Fast Focus Clutch mechanism.



In stock at only  
£309.00\*

£60  
cashback

\*Price after £60 cashback. You pay £369.00 & claim £60 from Olympus. Offer available 15.05.17 - 15.07.17

### Olympus 30mm f/3.5 Macro

This prime lens delivers intense image magnification of up to 1.25x - the largest a subject can be captured with a macro lens of this class.



In stock at only  
£189.00\*

£40  
cashback

\*Price after £40 cashback. You pay £229.00 & claim £40 from Olympus. Offer available 15.05.17 - 15.07.17



### Olympus 45mm f/1.8

Stylish & affordable, this prime lens is ideal for capturing people in portrait shots with nice background blur and vivid contrast, thanks to its fast aperture.



In stock at only  
£159.00\*

£40  
cashback

\*Price after £40 cashback. You pay £199.00 & claim £40 from Olympus. Offer available 15.05.17 - 15.07.17

### Olympus 9-18mm f/4.0-5.6

This lens's small & compact design make it an ideal wide-angle lens perfect for your journeys when heavy equipment can be cumbersome.



In stock at only  
£404.00\*

£75  
cashback

\*Price after £40 cashback. You pay £479.00 & claim £40 from Olympus. Offer available 15.05.17 - 15.07.17

### Olympus 75-300mm f/4.8-6.7 II

Capable of delivering an attention-grabbing shallow depth of field when shooting portraits, and attractively defocused surroundings.



In stock at only  
£314.00\*

£75  
cashback

\*Price after £40 cashback. You pay £389.00 & claim £40 from Olympus. Offer available 15.05.17 - 15.07.17

### Olympus TOUGH TG-5

The new TOUGH TG-5 is a versatile waterproof, freezeproof, crush, shock, and dustproof action camera with fantastic low light capabilities & a battery of Field Sensors adding data to your images & video.



NEW!

£399.00

Expected June 2017. See website to learn more.  
Visit our YouTube channel to see our unboxing of the TG-5!



# SONY



# α9

## Game Changer

Push the boundaries of photography with the world's first\* full-frame stacked CMOS sensor. A silent shutter with 20fps burst shooting and blackout-free viewfinder means capturing legendary moments that have never been possible before now.

INTRODUCING THE **α9** FROM SONY

**4K** *Exmor RS*<sup>TM</sup>  
CMOS Sensor

Discover more at: [www.sony.co.uk](http://www.sony.co.uk)

\*The world's first as 35mm full-frame stacked CMOS image sensor with integral memory, as of April 2017, based on Sony research.  
'Sony', 'α' and their logos are registered trademarks or trademarks of Sony Corporation. All other logos and trademarks are the property of their respective owners.